



Date: August 27, 2014

Re: Consent Decree Civil Action No. 1:13-cv-56

To Whom It May Concern:

On June 14, 2013, Tyson Foods, Inc. (Tyson) reached an agreement with the U.S. Department of Justice (DOJ) and the U.S. Environmental Protection Agency (EPA) that addressed government allegations of Clean Air Act noncompliance involving refrigeration systems at 23 Tyson plants in Iowa, Kansas, Missouri and Nebraska. The Montgomery City, MO Warehouse is one of those facilities.

Pursuant to the agreement (see attached Consent Decree) each facility must perform non-destructive testing (NDT) on specific piping configurations and perform an enhanced 3rd party compliance audit. At present, NDT has been performed and piping identified as deficient has been replaced. Also the 3rd party audit is complete and action items are being worked on at this time. The due date for these items is 1/15/2015; however, completion is expected in September 2014. Tyson will maintain full responsibility for closure of these action items and will provide certification of completion to the EPA and H.T. Hackney Co.

This letter serves as official notice advising H.T. Hackney Co. (purchaser) of the existence of said Consent Decree and ongoing obligations.

Thank you and if you have any questions please call or email.

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UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MISSOURI

UNITED STATES OF AMERICA)
)
Plaintiff,)
)
v.)
)
TYSON FOODS, INC.,)
IBP REDEVELOPMENT CORP.,)
IBP FOODS COMPANY,)
FOODBRANDS SUPPLY CHAIN)
SERVICES, INC.,)
TYSON CHICKEN, INC.,)
TYSON DELI, INC.,)
TYSON FRESH MEATS, INC.,)
TYSON POULTRY, INC.,)
TYSON PREPARED FOODS, INC.,)
TYSON PROCESSING SERVICES, INC.,)
and TYSON REFRIGERATED)
PROCESSED MEATS, INC.,)
)
Defendants.)
_____)

Civil Action No. _____

CONSENT DECREE

WHEREAS Plaintiff the United States of America, on behalf of the United States Environmental Protection Agency (“EPA”), has filed a complaint in this action concurrently with this Consent Decree, pursuant to Section 113(b) of the Clean Air Act (“CAA” or the “Act”), 42 U.S.C. § 7413(b), alleging that Tyson Foods, Inc., IBP Redevelopment Corp., IBP Foods Company, Foodbrands Supply Chain Services, Inc., Tyson Chicken, Inc., Tyson Deli, Inc., Tyson Fresh Meats, Inc., Tyson Poultry, Inc., Tyson Prepared Foods, Inc., Tyson Processing Services, Inc., and Tyson Refrigerated Processed Meats, Inc., (collectively “Tyson” or the “Defendants”) violated Section 112(r) of the CAA, 42 U.S.C. § 7412(r).

WHEREAS The Complaint against Tyson alleges violations of Section 112(r)(7) of the CAA at twenty-three of Tyson’s facilities in Nebraska, Iowa, Missouri and Kansas. Tyson uses anhydrous ammonia in the refrigeration processes at these Facilities. Anhydrous ammonia is an “extremely hazardous substance” regulated by Section 112(r)(3) of the CAA. Because of the use of an extremely hazardous substance in an amount above the threshold quantity of 10,000 pounds, all of the Facilities covered in this Decree are subject to the requirements of the Risk Management Program provisions of Section 112(r)(7) of the CAA, and its implementing regulations, 40 C.F.R. Part 68.

WHEREAS Based on inspections, information requests, and internal reports, EPA alleges that there have been multiple occasions of noncompliance with the requirements of the chemical accident prevention provisions of the CAA, including failure to test or replace safety relief valves, improperly co-located gas-fired boilers and ammonia compressors, and failure to abide by the Risk Management Program requirements of CAA § 112(r)(7).

WHEREAS Tyson does not admit any liability to the United States arising out of the transactions or occurrences alleged in the Complaint or otherwise.

WHEREAS The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation between the Parties and that this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law except as provided in Section I, and with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of the United States' claims in this action and over the parties pursuant to 28 U.S.C. §§ 1331, 1345, and 1355; and Section 113(b) of the CAA, 42 U.S.C. § 7413(b), and over the Parties. Venue lies in this District pursuant to 28 U.S.C. §§ 1391(b), (c), and 1395(a), and Section 113(b) of the CAA, 42 U.S.C. § 7413(b), because Defendants do business in this District and events giving rise to the claims alleged herein occurred in this District.

2. For purposes of this Consent Decree only, Defendants agree that the Complaint states claims upon which relief may be granted pursuant to Sections 112(r) and 113 of the CAA, 42 U.S.C. §§ 7412(r), 7413.

II. APPLICABILITY

3. The obligations of this Consent Decree apply to and are binding upon the United States, and upon Defendants and upon any successors, assigns, or other entities or persons otherwise bound by law.

4. No transfer of ownership or operation of the Facilities or any portion thereof, prior to the Termination Date, whether in compliance with the procedures of this Paragraph or

otherwise, shall relieve Defendants of their obligation to ensure that the terms of this Decree are implemented, except as described in Paragraph 5, below. At least thirty (30) Days prior to such transfer, Defendants shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the proposed written agreement to EPA Region 7 and to the United States, in accordance with Section XVI (Notices) of this Decree. Any attempt to transfer ownership or operation of the Facilities without complying with this Paragraph constitutes a violation of this Decree.

5. If Defendants propose to sell or transfer a Facility after implementation of Appendices A and B of the Consent Decree is complete at that Facility to an entity unrelated to Defendants (“Third Party”), they shall advise the Third Party in writing of the existence of this Consent Decree prior to such sale or transfer, and shall send a copy of such written notification to the Plaintiff pursuant to Section XVI (Notices) of this Decree at least thirty (30) Days before such proposed sale or transfer. The notification to Plaintiff shall specify the Facility proposed for sale or transfer. The notification to Plaintiff shall also provide certification that implementation of Appendices A and B of the Consent Decree, and any corrective measures required as a result of the audits and testing conducted pursuant to Appendices A and B, respectively, is complete at that Facility.

- a. Upon completion of a sale or transfer in compliance with this Paragraph, Defendants are hereby released from the obligations and liabilities of this Consent Decree with respect to the sold or transferred Facility.
- b. Sales or transfers of Facilities among entities that are not Third Parties are not subject to this Paragraph and do not relieve Defendants of any obligations under this Consent Decree.

- c. This Paragraph and Paragraph 4 of the Consent Decree do not apply if an operational or ownership interest is sold or transferred solely as collateral security in order to consummate a financing arrangement, so long as Defendants remain the operator (as that term is used and interpreted under the CAA) of the subject Facility and remain subject to and liable for all obligations and liabilities of this Consent Decree.
- d. Notwithstanding any other provision of this Decree, Tyson may assert that any notice and associated documentation provided pursuant to Paragraphs 4 or 5 contains confidential business information pursuant to 40 C.F.R. Part 2.

6. This Consent Decree shall not be construed to impede the transfer of any operational or ownership interest in any Facility between Defendants and any Third Party so long as the requirements of this Consent Decree are met. This Consent Decree shall not be construed to prohibit a contractual allocation as between Defendants and any Third Party of the burdens of compliance with this Consent Decree, so long as the requirements of this Consent Decree are met. Any contractual allocation Defendants enter pursuant to this Paragraph does not alter their burdens of compliance with this Consent Decree.

7. Nothing in this Consent Decree shall be construed to require Defendants to continue to operate any Facility. The idling or closure of a Facility shall not relieve Defendants of any obligations under the Consent Decree with respect to such Facility except as provided herein. Should Defendants decide to permanently close any Facility at which implementation of Appendices A and B of this Consent Decree are not yet complete, Defendants may petition EPA for relief from those Appendices. EPA shall grant the petition if Defendants have ceased all

operations and surrendered all operational permits for the Facility. In its sole discretion, EPA may grant the petition in other circumstances deemed appropriate by EPA.

8. Defendants shall provide a copy of this Consent Decree to all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Decree. Defendants shall also provide to any contractor retained to perform work required under this Consent Decree with the provisions of the Consent Decree that are relevant to the work that contractor is performing. Defendants shall condition any contract to perform such work upon performance of the work in conformity with the terms of this Consent Decree.

9. Defendants agree not to contest the validity of the Consent Decree in any subsequent proceeding to implement or enforce its terms.

10. In any action to enforce this Consent Decree, Defendants shall not raise as a defense the failure by any of its officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree.

III. OBJECTIVES

11. It is the purpose of the Parties to this Consent Decree to further the objectives of Section 112(r) of the CAA, 42 U.S.C. § 7412(r).

IV. DEFINITIONS

12. Terms used in this Consent Decree that are defined or used in the CAA, or in regulations promulgated thereunder, shall have the meanings assigned to them in such statute or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

- a. “Complaint” shall mean the complaint filed by Plaintiff in this action.
- b. “Consent Decree” or “Decree” shall mean this Decree, including all appendices.
- c. “Covered Process” shall mean “a process that has a regulated substance present in

more than a threshold quantity as determined under 40 C.F.R. § 68.115.”

40 C.F.R. § 68.3.

- d. “Day” shall mean a calendar day unless expressly stated to be a business day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next business day.
- e. “Date of Lodging” shall mean the day that this Consent Decree is lodged with the Court for the public comment period.
- f. “Defendants” shall mean Tyson Foods, Inc., IBP Redevelopment Corp., IBP Foods Company, Foodbrands Supply Chain Services, Inc., Tyson Chicken, Inc., Tyson Deli, Inc., Tyson Fresh Meats, Inc., Tyson Poultry, Inc., Tyson Prepared Foods, Inc., Tyson Processing Services, Inc., and Tyson Refrigerated Processed Meats, Inc.
- g. “EPA” shall mean the United States Environmental Protection Agency and any of its successor departments or agencies.
- h. “Effective Date” shall have the definition provided in Section XVII of this Decree.
- i. “Facilities” shall mean Defendants’ facilities in the following locations:
 - 1300 S. Lake Street, Cherokee, Iowa
 - Highway 70 North, Columbus Junction, Iowa
 - 2700 23rd Avenue and 2101 South 29th Street, Council Bluffs, Iowa (Including both the Case Ready and Cooked Meat Processes)
 - 2490 Lincoln Way, Denison, Iowa
 - 13500 I Court, Perry, Iowa
 - 3939 South Lewis Boulevard, Sioux City, Iowa
 - 2101 West 6th Street, Emporia, Kansas
 - 9 North Washington Street, South Hutchinson, Kansas
 - 521 South Main, Hutchinson, Kansas

- 1001 East Stoddard, Dexter, Missouri
- 19571 Whitfield Road, Sedalia, Missouri
- Highway 35, Dakota City, Nebraska
- 1500 Plum Creek Parkway, Lexington, Nebraska
- 1200 Industrial Parkway, Madison, Nebraska
- 13076 Renfro Circle, Omaha, Nebraska
- 1901 South Saint Louis Street, Concordia, Missouri
- West Highway 50, Finney County, Kansas
- 800 County Road, Monett, Missouri
- 1001 Harness Drive, Montgomery City, Missouri
- 1 Tyson Avenue, Noel, Missouri
- 20701 West 159th Street, Olathe Distribution Center, Olathe, Kansas
- 1009 Richland Street, Storm Lake, Iowa
- 501 North Elk Run Road, Waterloo, Iowa (Including both the Animal Slaughtering and Meat from Carcass Processes)

- j. “Interest” shall mean interest at the rate specified in 28 U.S.C. § 1961.
- k. “Non-Destructive Testing Protocol” shall mean the entirety of the compliance obligations described in and established in Appendix B to this Consent Decree.
- l. “Paragraph” shall mean a portion of this Decree identified by an Arabic numeral.
- m. “Parties” shall mean the United States and Defendants.
- n. “Plaintiff” shall mean the United States.
- o. “Regulated Substance” shall mean “any substance listed pursuant to section 112(r)(3) of the Clean Air Act, as amended, in 40 C.F.R. § 68.130.” 40 C.F.R. § 68.3.
- p. “Section” shall mean a portion of this Decree identified by a Roman numeral.
- q. “Termination Date” shall mean the date this Consent Decree terminates as provided by Section XX of this Decree.
- r. “Third Party Audit Protocol” shall mean the entirety of the compliance obligations described in and established in Appendix A to this Consent Decree.
- s. “United States” shall mean the United States of America, acting on behalf of

EPA.

V. PAYMENTS

13. Within thirty (30) Days after the Effective Date of this Consent Decree, Defendants shall pay the sum of \$3,950,000 as a civil penalty. Defendants shall pay this civil penalty and Interest, if any, by FedWire Electronic Funds Transfer (“EFT”) to the U.S. Department of Justice in accordance with written instructions to be provided to Defendants, following lodging of the Consent Decree, by the Financial Litigation Unit of the U.S. Attorney’s Office for the Eastern District of Missouri. Any payments received by the Department of Justice after 4:00 pm Eastern Time shall be credited on the next business day. At the time of payment, Defendants shall send a copy of the EFT authorization form and the EFT transaction record, together with a transmittal letter, which shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in United States v. Tyson Foods, Inc. et al., and shall reference the civil action number and DOJ case number 90-5-2-1-10377, to the United States in accordance with Section XVI (Notices) of this Decree; by email to acctsreceivable.CINWD@epa.gov; and by mail to:

EPA Cincinnati Finance Office
26 Martin Luther King Drive
Cincinnati, Ohio 45268

14. The Defendants shall not deduct any penalties paid under this Decree pursuant to this Section or Section XI (Stipulated Penalties) of this Decree in calculating its federal income tax.

VI. COMPLIANCE REQUIREMENTS

15. Defendants shall comply with all applicable Risk Management Program statutory requirements under 42 U.S.C. § 112(r)(7) and regulations promulgated thereunder at 40 C.F.R. Part 68 at the Facilities.

16. Defendants shall comply with and implement all provisions of the Third Party Audit Protocol embodied in Appendix A attached hereto.

17. Defendants shall comply with and implement all provisions of the Non-Destructive Testing Protocol embodied in Appendix B attached hereto.

VII. REPORTING REQUIREMENTS

18. Defendants shall timely submit all reports and deliverables described in the Third Party Audit Protocol, Appendix A; the Non-Destructive Testing Protocol, Appendix B; and the Protocol for Supplemental Environmental Project, Appendix C.

19. Whenever any violation of this Consent Decree or any other event affecting Defendants' performance under this Decree, or the performance of its Facility, may pose an immediate threat to the public health or welfare or the environment, Defendants shall notify EPA orally or by electronic or facsimile transmission as soon as possible, but no later than 24 hours after Defendants first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

20. All reports shall be submitted to the persons designated in Section XVI (Notices) of this Decree.

21. Each report submitted by Defendants under this Section shall be signed by a senior official of the submitting party and include the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on any personal knowledge I may have and my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant

penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

22. This certification requirement does not apply to emergency notifications where compliance would be impractical.

23. The reporting requirements of this Consent Decree do not relieve Defendants of any reporting obligations required by any federal, state, or local law, regulation, permit, or other requirement.

24. Any information provided pursuant to this Consent Decree may be used by the United States in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

VIII. APPROVAL OF DELIVERABLES

25. Approval of Deliverables. After review of any plan, report, or other item that is required to be submitted pursuant to this Consent Decree, EPA shall in writing: a) approve the submission; b) approve the submission upon specified conditions; c) approve part of the submission and disapprove the remainder; or d) disapprove the submission. Specifically, the following plans, reports, or other items are subject to this Section: Defendants' responses to Audit reports pursuant to Section 6 of Appendix A; and Defendants' reports pursuant to Section 5 of Appendix B. Provided, however, that nothing in this Section shall prevent Defendants from invoking dispute resolution pursuant to Paragraph 6.3 of Appendix A after receipt of any Audit report.

26. If the submission is approved pursuant to Paragraph 25.a, Defendants shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part, pursuant to Paragraph 25.b or .c, Defendants

shall, upon written direction from EPA, take all actions required by the approved plan, report, or other item that EPA determines are technically severable from any disapproved portions, subject to Defendants' right to dispute only the specified conditions or the disapproved portions, under Section XIII (Dispute Resolution) of this Decree. If the submission is disapproved in whole or in part pursuant to Paragraph 25.c or .d, Defendants shall, within 30 Days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, Defendants shall proceed in accordance with the preceding Paragraph.

27. Any stipulated penalties applicable to the original submission, as provided in Section XI (Stipulated Penalties) of this Decree, shall accrue during the 30-Day period or other specified period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of Defendants' obligations under this Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

28. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part, EPA may again require Defendants to correct any deficiencies, in accordance with the preceding Paragraphs, or may itself correct any deficiencies, subject to Defendants' right to invoke Dispute Resolution and the right of EPA to seek stipulated penalties as provided in the preceding Paragraphs.

29. Permits. Where any compliance obligation under this Consent Decree requires Defendants to obtain a federal, state, or local permit or approval, Defendants shall submit timely

and complete applications and take all other actions necessary to obtain all such permits or approvals.

30. Failure of Compliance. Notwithstanding the review or approval by any agency of the United States of any plans, reports, policies or procedures formulated pursuant to the Consent Decree, Defendants will remain solely responsible for compliance with the terms of the Consent Decree, all applicable permits, and all applicable federal, state, regional, and local laws and regulations, except as provided in Section XII (Force Majeure) of this Decree.

IX. SUPPLEMENTAL ENVIRONMENTAL PROJECT

31. Defendants shall implement a Supplemental Environmental Project (“SEP”), in accordance with Appendix C of this Consent Decree.

32. Defendants are responsible for the satisfactory completion of the SEP in accordance with the requirements of this Decree. Defendants may use contractors or consultants in planning and implementing the SEP.

33. With regard to the SEP, Defendants certify the truth and accuracy of each of the following:

- a. that all cost information provided to EPA in connection with EPA’s approval of the SEP is complete and accurate and that Defendants in good faith estimate that the cost to implement the SEP is \$300,000;
- b. that, as of the date of executing this Decree, Defendants are not required to perform or develop the SEP by any federal, state, or local law or regulation and are not required to perform or develop the SEP by agreement, grant, or as injunctive relief awarded in any other action in any forum;
- c. that the SEP is not a project that Defendants were planning or intending to construct, perform, or implement other than in settlement of the claims resolved in

this Decree;

- d. that Defendants are not party to any open federal financial assistance transaction that is funding or could be used to fund the same activity as the SEP nor has the same activity been described in an unsuccessful federal financial assistance transaction proposal submitted to EPA by Defendants within two (2) years of the date of Defendants' execution of this Consent Decree (unless the project was barred from funding as statutorily ineligible);
- e. that Defendants have inquired of each fire department listed in Attachment 1 to Appendix C (the SEP Protocol), whether they are party to an open federal financial assistance transaction that is funding or could fund the same activity as the SEP and whether the same activity has been described in an unsuccessful federal financial assistance transaction proposal submitted to EPA by the fire departments listed in Attachment 1 to Appendix C, within two (2) years of the date of Defendants execution of this Consent Decree (unless the project was barred from funding as statutorily ineligible), and has been informed that there is no such open federal financial assistance transaction and no such unsuccessful proposal;
- f. that Defendants are not otherwise aware of any open federal financial assistance transaction that is funding or could fund the same activity as the SEP;
- g. that Defendants have not received and will not receive credit for the SEP in any other enforcement action;
- h. that Defendants have not received and will not receive credit for the SEP in any other enforcement action; and

i. that Defendants will not receive any reimbursement for any portion of the SEP from any other person.

j. For purposes of this Paragraph “open federal financial assistance transaction” refers to a grant, cooperative agreement, loan, federally-guaranteed loan guarantee, or other mechanism for providing federal financial assistance whose performance period has not yet expired.

34. SEP Completion Report. Within 30 days after the date set for completion of the SEP, Defendants shall submit a SEP Completion Report to the United States, in accordance with Section XVI (Notices) of this Decree. The SEP Completion Report shall contain the following information:

- a. a detailed description of the SEP as implemented;
- b. a description of any problems encountered in completing the SEP and the solutions thereto;
- c. an itemized list of all eligible SEP costs expended;
- d. certification that the SEP has been fully implemented pursuant to the provisions of this Decree; and
- e. a description of the environmental and public health benefits resulting from implementation of the SEP.

35. EPA may, in its sole discretion, require information in addition to that described in the preceding Paragraph, in order to evaluate Defendants’s completion report.

36. Within 90 days after receiving the SEP Completion Report, the United States shall notify Defendants whether or not Defendants have satisfactorily completed the SEP. If

Defendants have not completed the SEP in accordance with this Consent Decree, stipulated penalties may be assessed under Section XI of this Consent Decree.

37. Disputes concerning the satisfactory performance of the SEP and the amount of eligible SEP costs shall be resolved under Section XIII (Dispute Resolution) of this Consent Decree.

38. Each submission required under this Section shall be signed by an official with knowledge of the SEP and shall bear the certification language set forth in Paragraph 21.

39. Any public statement, oral or written, in print, film, or other media, made by Defendants making reference to the SEP under this Decree shall include the following language: “This project was undertaken in connection with the settlement of an enforcement action, United States v. Tyson Foods, Inc. et al., taken on behalf of the U.S. Environmental Protection Agency under the Clean Air Act.”

40. For federal income tax purposes, Defendants agree that they will neither capitalize into inventory or basis nor deduct any costs or expenditures incurred in performing the SEP.

X. INFORMATION COLLECTION, RECORDKEEPING AND RETENTION

41. The United States and its representatives, including attorneys, contractors, and consultants, shall have the right of entry into any facility covered by this Consent Decree, upon presentation of credentials, to:

- a. monitor the progress of activities required under this Consent Decree;
- b. verify any data or information submitted to the United States in accordance with the terms of this Consent Decree;
- c. obtain documentary evidence, including photographs and similar data; and
- d. assess Defendants’ compliance with this Consent Decree.

42. Until five (5) years after the termination of this Consent Decree, Defendants shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate to Defendants' performance of its obligations under this Consent Decree. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United States, Defendants shall provide copies of any documents, records, or other information required to be maintained under this Paragraph. Defendants may assert that certain documents, records, or other information is privileged under the attorney-client privilege or any other privilege recognized by federal law. If Defendants assert such a privilege, it shall provide the following: (1) the title of or description of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of each author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by Defendants. However, no documents, records, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege. Defendants may also assert that information required to be provided under this Section is protected as Confidential Business Information ("CBI") under 40 C.F.R. Part 2. As to any information that Defendants seeks to protect as CBI, Defendants shall follow the procedures set forth in 40 C.F.R. Part 2.

43. At the conclusion of the information-retention period provided in the preceding Paragraph, Defendants shall notify the United States at least 90 Days prior to the destruction of

any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States, Defendants shall deliver any such documents, records, or other information to EPA.

44. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of Defendants to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

45. Nothing in this Consent Decree shall limit the authority of EPA to conduct tests, inspections, or other activities under any statutory or regulatory provision.

XI. STIPULATED PENALTIES

A. General Provisions Regarding Stipulated Penalties.

46. Defendants shall be liable for stipulated penalties to the United States for violations of this Decree as specified below, unless excused under Section XII (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Decree according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

47. Stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

48. Defendants shall pay any stipulated penalty within thirty (30) Days of receiving the United States' written demand.

49. The United States may in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due it under this Consent Decree.

50. Stipulated penalties shall continue to accrue as provided in Paragraph 68, during any Dispute Resolution, but need not be paid until the following:

- a. If the dispute is resolved by agreement or by a decision of EPA that is not appealed to the Court, Defendants shall pay accrued penalties determined to be owing, together with Interest, to the United States within thirty (30) Days of the effective date of the agreement or the receipt of EPA's decision or order.
- b. If the dispute is appealed to the Court and the United States prevails in whole or in part, Defendants shall pay all accrued penalties determined by the Court to be owing, together with Interest, within sixty (60) Days of receiving the Court's decision or order, except as provided in Paragraph 50.c, below.
- c. If any Party appeals the District Court's decision, Defendants shall pay all accrued penalties determined to be owing, together with interest, within fifteen (15) Days of receiving the final appellate court decision.

51. Defendants shall pay stipulated penalties owing to the United States in the manner set forth and with the confirmation notices required by Paragraph 13, except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid.

52. If Defendants fail to pay stipulated penalties according to the terms of this Consent Decree, Defendants shall be liable for Interest on such stipulated penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph

shall be construed to limit the United States from seeking any remedy otherwise provided by law for Defendants' failure to pay any stipulated penalties.

53. Subject to the provisions of Section XIV (Effect of Settlement/Reservation of Rights) of this Decree, the stipulated penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States for Defendants' violation of this Consent Decree or applicable law. Where a violation of this Consent Decree is also a violation of the Clean Air Act, Defendants shall be allowed a credit for any stipulated penalties paid against any statutory penalties imposed for such violation. Notwithstanding the foregoing, the United States reserves all its rights to pursue, under the Consent Decree and/or outside of it, any other non-monetary remedies to which it is legally entitled, including but not limited to injunctive relief for violations of the Consent Decree.

B. Specific Stipulated Penalties.

54. Failure to Pay or Late Payment of Civil Penalty required by Paragraph 13. If Defendants fail to pay the civil penalty required to be paid under Section V (Payments) of this Decree when due, Defendants shall pay a stipulated penalty of \$5,000 per Day for each Day that the payment is late.

55. Failure to Comply with any Risk Management Program Requirement set forth in 42 U.S.C. § 7412(r)(7) or 40 C.F.R. § 68 as Required by Paragraph 15 after the Effective Date:

Number of Days Late or Deficient	Penalty Per Day Late or Deficient
1-30	\$1,000
31-59	\$1,500
60 and Over	\$3,000

This provision does not apply to any failure to comply that falls within the scope of Paragraph 76.

56. Failure to Timely Conduct an Audit in Accordance with Appendix A:

Number of Days Late or Deficient	Penalty Per Day Late or Deficient
1-30	\$1,500
31-59	\$3,000
60 and Over	\$6,000

57. Failure to Timely Correct a Finding in an Audit Report as Required by Appendix

A:

Number of Days Late or Deficient	Penalty Per Day Late or Deficient
1-30	\$1,500
31-59	\$3,000
60 and Over	\$6,000

58. Reporting Requirements. The following stipulated penalties shall accrue per violation per Day for each violation of the reporting requirements of Section VII of this Consent Decree, including those in requirements listed in Appendices A, B, and C.

Number of Days Late or Deficient	Penalty Per Day Late or Deficient
1-30	\$500
31-59	\$1,000
60 and Over	\$2,000

59. Failure to Comply with Any Requirement of this Consent Decree for which Stipulated Penalties are Not Specifically Set Forth Above.

Number of Days Late or Deficient	Penalty Per Day Late or Deficient
1-30	\$500
31-59	\$1,000
60 and Over	\$2,000

This provision does not apply to any failure to comply that falls within the scope of Paragraph 76.

60. SEP Compliance. Except as provided in Paragraph 61, if the SEP is not satisfactorily completed by the deadline set forth in Appendix C, the Defendants shall pay stipulated penalties for each day the SEP is late or not satisfactorily completed, as follows:

Number of Days Late or Deficient	Penalty Per Day Late or Deficient
1-30	\$1,500
31-59	\$3,000
60 and Over	\$6,000

61. SEP Abandonment. If the Defendants have not satisfactorily completed the SEP by 90 days after the SEP Completion Date set forth in Appendix C, the United States may elect to terminate the SEP if it determines that the Defendants are not making a good faith effort to satisfactorily complete the SEP. In addition, if at any time the United States determines that the Defendants have abandoned the SEP, it may terminate the SEP. The United States shall provide written notice of SEP termination to the Defendants. If the United States terminates the SEP, the Defendants shall be liable for a lump sum stipulated penalty of \$375,000, less any amount that the Defendants have paid under Paragraph 60 and less the amount of any equipment Defendants can prove they purchased and distributed pursuant to Appendix C. If Defendants pay a termination penalty under this Paragraph, they shall not be liable for stipulated penalties under Paragraph 60. Any sums already paid under Paragraph 60 shall be credited against the lump sum stipulated penalty due under this Paragraph.

XII. FORCE MAJEURE

62. “Force Majeure,” for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of Defendants, of any entity controlled by Defendants, or of Defendants’ contractors, which delays or prevents the performance of any obligation under this Consent Decree despite the Defendants’ best efforts to fulfill the obligation. The requirement that Defendants exercise “best efforts to fulfill the obligation” includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any such event (a) as it is occurring and (b) after it has occurred to prevent or minimize any

resulting delay to the greatest extent possible. “Force majeure” does not include Defendants’ financial inability to perform any obligation under this Consent Decree.

63. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a force majeure event, Defendants shall provide notice orally or by electronic mail or to the United States within seventy-two (72) hours of when the Defendants first knew that the event might cause a delay. Within seven (7) days thereafter, the Defendants shall provide in writing to the United States an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; the Defendants’ rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of the Defendants, such event may cause or contribute to an endangerment to public health, welfare or the environment. The United States may, in its unreviewable discretion, extend the time within which notice must be given. No such extension shall be effective unless in writing. The Defendants shall include with any force majeure notice all documentation then available supporting the claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude the Defendants from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Defendants shall be deemed to know of any circumstance of which the Defendants, any entity controlled by Defendants or Defendants’ contractors knew or should have known.

64. If the United States agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that

are affected by the force majeure event will be extended for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. The United States will notify the Defendants in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

65. If the United States does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, or needs further information from Defendants regarding the asserted force majeure event to make a decision, it will notify the Defendants in writing of its decision.

66. If Defendants elect to invoke the dispute resolution procedures set forth in Section XIII (Dispute Resolution), it shall do so no later than fifteen (15) days after receipt of the United States' notice pursuant to Paragraphs 64 or 65 above. In any such proceeding, the Defendants shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that the Defendants complied with the requirements of Paragraph 63, above. If the Defendants carry this burden, the delay at issue shall be deemed not to be a violation by the Defendants of the affected obligation of this Consent Decree identified to the United States and the Court, and the relevant deadline shall be extended for such time as is necessary to complete the obligations affected by the force majeure event.

XIII. DISPUTE RESOLUTION

67. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising

under or with respect to this Consent Decree. Defendants' failure to seek resolution of a dispute under this Section shall preclude it from raising any such issue as a defense to an action by the United States to enforce any obligation of Defendants arising under or with respect to this Decree.

68. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of the Defendants under this Consent Decree, unless the Court or the final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, until the Court issues a decision on the dispute in favor of the United States. Payment shall be stayed pending resolution of the dispute as provided in Paragraph 50. If Defendants do not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XI (Stipulated Penalties).

69. Informal Dispute Resolution. Any dispute subject to Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when Defendants send the United States a written Notice of Dispute. Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed twenty (20) Days from the date the dispute arises, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States shall be considered binding unless, within ten (10) Days after the conclusion of the informal negotiation period, Defendants invoke formal dispute resolution procedures as set forth below.

70. Formal Dispute Resolution. Defendants shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by serving on the United

States a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting Defendants' position and any supporting documentation relied upon by Defendants.

71. The United States shall serve its Statement of Position within thirty (30) Days of receipt of Defendants' Statement of Position. The United States' Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States. The United States' Statement of Position shall be binding on Defendants, unless Defendants file a motion for judicial review of the dispute in accordance with the following Paragraph.

72. Defendants may seek judicial review of the dispute by filing with the Court and serving on the United States, in accordance with Section XVI (Notices) of this Decree, a motion requesting judicial resolution of the dispute. The motion must be filed within ten (10) Days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of Defendants' position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

73. The United States shall respond to Defendants' motion within the time period allowed by the Local Rules of this Court. Defendants may file a reply memorandum, to the extent permitted by the Local Rules.

74. Standard of Review. Except as otherwise provided in this Consent Decree, in any dispute brought under Paragraph 72, Defendants shall bear the burden of demonstrating that their position complies with this Consent Decree and that they are entitled to relief under applicable

principles of law. The United States reserves the right to argue that the dispute is reviewable only on the administrative record and must be upheld unless arbitrary and capricious or otherwise not in accordance with the law, and Defendants reserve the right to oppose this position.

XIV. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

75. This Consent Decree resolves the civil claims of the United States for the violations alleged in the Complaint filed in this action through the Date of Lodging.

76. Entry of this Consent Decree also resolves the civil liability of Defendants to the United States for the specific violations of Risk Management Program requirements in Section 112(r)(7) of the CAA, 42 U.S.C. § 7412(r)(7), or the regulations promulgated thereunder, that are identified as a result of an Audit conducted pursuant to Appendix A (i.e. the Audit “Findings”) or testing pursuant to Appendix B, are reported to EPA pursuant to the requirements of Appendix A or B, and that are timely and fully corrected by Defendants in accordance with Appendix A or B. For the purposes of this Paragraph, violation(s) that are identified as a result of an Audit under Appendix A (i.e. the Audit “Findings”) or testing pursuant to Appendix B, shall only be considered “fully corrected” on the date that Defendants send certification to the United States that the violation(s) have been corrected in accordance with the reporting procedures under Appendix A or Appendix B.

77. The United States reserves all legal and equitable remedies available to enforce the provisions of this Consent Decree, except as expressly stated in Paragraphs 75-76. This Consent Decree shall not be construed to limit the rights of the United States to obtain penalties or injunctive relief under the CAA or implementing regulations, or under other federal laws, regulations, or permit conditions, except as expressly specified in Paragraphs 75-76. The United States further reserves all legal and equitable remedies to address any imminent and substantial

endangerment to the public health or welfare or the environment arising at, or posed by, the Facilities, whether related to the violations addressed in this Consent Decree or otherwise.

78. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, civil penalties, other appropriate relief relating to the Facilities or Defendants' violations, Defendants shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraphs 74-75 of this Section.

79. This Consent Decree is not a permit, or a modification of any permit, under any federal, state, or local laws or regulations. Defendants are responsible for achieving and maintaining complete compliance with all applicable federal, state, and local laws, regulations, and permits; and Defendants' compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or permits, except as set forth herein. The United States does not, by its consent to the entry of this Consent Decree, warrant or aver in any manner that Defendants' compliance with any aspect of this Consent Decree will result in compliance with provisions of Section 112(r) of the Clean Air Act, 42 U.S.C. § 7412(r) or the regulations promulgated thereunder, or with any other provisions of federal, state, or local laws, regulations, or permits.

80. This Consent Decree does not limit or affect the rights of Defendants or of the United States against any third parties, not party to this Consent Decree, nor does it limit the

rights of third parties, not party to this Consent Decree, against Defendants, except as otherwise provided by law.

81. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

XV. COSTS

82. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by Defendants.

XVI. NOTICES

83. Unless otherwise specified herein, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as set forth below. Simultaneously, such notices shall be emailed to the relevant recipients, except that any notice attachments that are too voluminous to email need only be provided by mail. Where this Consent Decree requires that notices and submissions are to be made to the United States, they shall be made to the United States Department of Justice and EPA. Where the Consent Decree Requires that Notices and Submissions shall be made to EPA, they need only be sent to EPA. Except as otherwise provided herein, all reports, notifications, certifications, or other communications required under this Consent Decree to be submitted or sent to the United States, EPA, and/or Defendants shall be addressed as follows:

As to the United States:

U.S. Department of Justice

Chief
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611, Ben Franklin Station
Washington, DC 20044-7611
Reference Case No. 90-5-2-1-07459/1
Email: Walter.Benjamin.Fisherow@usdoj.gov

EPA Region 7:

For Risk Management Program Items related to Appendices A & B:

Chief, Chemical Risk Information Branch
EPA Region 7
11201 Renner Blvd.
Lenexa, Kansas 66219
Email: Bustos.Patrick@epa.gov

For All Items, including Items related to Appendix C:

Anne Rauch, Esq.
Office of Regional Counsel
Region 7
11201 Renner Blvd.
Lenexa, Kansas 66219
Rauch.Anne@epa.gov

As to Defendants:

Timothy T. Jones
Senior Counsel
Legal Department
Tyson Foods, Inc.
2200 Don Tyson Parkway
Springdale, Arkansas 72762
(479) 290-7102
Tim.Jones@Tyson.com

84. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

85. Notices submitted pursuant to this Section shall be deemed submitted upon mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XVII. EFFECTIVE DATE

86. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first, as recorded on the Court's docket.

XVIII. RETENTION OF JURISDICTION

87. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Sections XIII (Dispute Resolution) and XIX (Modification), or effectuating or enforcing compliance with the terms of this Decree.

XIX. MODIFICATION

88. The terms of this Consent Decree, including any attached appendices, may be modified only by a subsequent written agreement signed by all the Parties. Where the modification constitutes a material change to this Decree, it shall be effective only upon approval by the Court.

89. Any disputes concerning any modification of this Decree shall be resolved pursuant to Section XIII (Dispute Resolution) of this Decree, provided, however, that, instead of the burden of proof provided by Paragraph 74, the Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

XX. TERMINATION

90. After Defendants have completed the requirements of Section VI (Compliance Requirements) of this Decree, have complied with all other requirements of this Consent Decree, have paid the civil penalty, have resolved any outstanding disputes, and have paid any accrued stipulated penalties as required by this Consent Decree, Defendants shall serve upon the United States a Request for Termination, stating that Defendants have satisfied those requirements, together with all necessary supporting completion documentation required by Appendices A, B, and C (to the extent not already submitted).

91. Following receipt by the United States of Defendants' Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether Defendants have satisfactorily complied with the requirements for termination of this Consent Decree. If the United States agrees that the Decree may be terminated, the Parties shall submit to the Court an appropriate Joint Notice of Termination. The Joint Notice of Termination shall recite that the requirements of the Consent Decree have been met. The Joint Notice of Termination shall not require any further action from the Court and shall terminate the Consent Decree upon filing.

92. If the United States does not agree that the Decree may be terminated or does not timely respond to Defendant's Request for Termination, Defendants may invoke Dispute Resolution under Section XIII of this Decree. However, Defendants shall not seek Dispute Resolution of any dispute regarding termination, under Paragraph 72 of Section XIII, until at least 130 Days after service of its Request for Termination.

XXI. PUBLIC PARTICIPATION

93. This Consent Decree shall be lodged with the Court for a period of not less than thirty (30) Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United

States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. Defendants consent to entry of this Consent Decree without further notice and agree not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of the Decree, unless the United States has notified Defendants in writing that it no longer supports entry of the Decree.

XXII. SIGNATORIES/SERVICE

94. Each undersigned representative of Defendants and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice and the Environmental Protection Agency certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

95. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. Defendants agree to accept service of process by mail and, if applicable, electronic case filing notices, with respect to all matters arising under or relating to this Consent Decree that are required to be filed with the Court and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

XXIII. INTEGRATION

96. This Consent Decree constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Decree and supersedes all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. No other document, nor any representation, inducement,

agreement, understanding, or promise, constitutes any part of this Decree or the settlement it represents, nor shall it be used in construing the terms of this Decree.

XXIV. FINAL JUDGMENT

97. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States and Defendants. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Federal Rules of Civil Procedure 54 and 58.

Dated and entered this ___ day of _____, ____.

UNITED STATES DISTRICT JUDGE

WE HEREBY CONSENT to the entry of this Consent Decree subject to the public notice and comment provisions of 28 C.F.R. § 50.7:

FOR PLAINTIFF THE UNITED STATES OF AMERICA:

Date:

IGNACIA S. MORENO
Assistant Attorney General
United States Department of Justice
Environment and Natural Resources
Division

Date:

SARA A. COLANGELO
MICHAEL MCNULTY
Trial Attorney
Environment and Natural Resources
Division
Environmental Enforcement Section
United States Department of Justice
P.O. Box 7611
Washington, D.C. 20044
(202) 514-3394
Sara.Colangelo@usdoj.gov
Member of the Maryland Bar

RICHARD G. CALLAHAN
United States Attorney
Eastern District of Missouri

Date:

NICHOLAS P. LLEWELLYN
Assistant United States Attorney

Date:

CYNTHIA GILES
Assistant Administrator
U.S. Environmental Protection Agency

Date:

SUSSAN SHINKMAN
Director, Air Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance
Assurance
U.S. Environmental Protection Agency

Date:

KARL BROOKS
Regional Administrator
U.S. Environmental Protection Agency
Region VII

DAVID COZAD
Regional Counsel
U.S. Environmental Protection Agency
Region VII

Date:

ANNE RAUCH
Assistant Regional Counsel
U.S. Environmental Protection Agency
Region VII

WE HEREBY CONSENT to the entry of this Consent Decree:

FOR DEFENDANTS
TYSON FOODS, INC.
IBP REDEVELOPMENT CORP.
IBP FOODS COMPANY
FOODBRANDS SUPPLY CHAIN SERVICES, INC.
TYSON CHICKEN, INC.
TYSON DELI, INC.
TYSON FRESH MEATS, INC.
TYSON POULTRY, INC.
TYSON PREPARED FOODS, INC.
TYSON PROCESSING SERVICES, INC.
TYSON REFRIGERATED PROCESSED MEATS, INC.

Date: _____

Agent Authorized to Accept Service for Defendants in this Case:

TIMOTHY T. JONES
Senior Counsel
Legal Department
Tyson Foods, Inc.
2200 Don Tyson Parkway
Springdale, Arkansas 72762
(479) 290-7102
Tim.Jones@Tyson.com

9 July 2014

Mr. Patrick Bustos
Chief, Chemical Risk Information Branch
EPA Region 7
11201 Renner Blvd.
Lenexa, Kansas 66219



Re: Case No. 90-5-2-1-07459/1 - PSM and RMP Compliance Audit, Tyson Fresh Meats, Montgomery City, Missouri Forward Warehouse

Pursuant to the terms of the consent decree in United States v. Tyson Foods, et al., Endeavour EHS, LLC (Endeavour) visited the Tyson Fresh Meats (Tyson) Forward Warehouse in Montgomery City, Missouri on June 18, 2014 for the purpose of conducting a compliance audit of the PSM and RMP programs at the facility, specifically for the anhydrous ammonia refrigeration process. Mr. David Einolf, CPSA conducted the audit for Endeavour. Endeavour was accompanied during the audit site visit by Mr. Jeramie Lorson, Refrigeration Operator and Mr. Duane Miller, Refrigeration Supervisor (Tyson Ottawa, IL). Other Tyson representatives are detailed on the audit sheets.

The Montgomery City Forward Warehouse is not currently in operation, although the ammonia refrigeration system is fully operational and is operated several times each month. The facility currently has only two employees.

Endeavour used Tyson's corporate audit protocol and an expanded OSHA checklist to complete this compliance audit. The recommendations associated with the audit findings are presented in Appendix A. The completed compliance audit checklist is incorporated as Appendix B to this report.

The compliance audit reviewed each of the elements of the PSM and RMP programs in place at the Tyson facility. The following sections review Tyson's programs to meet the regulatory requirements of 29 CFR 1910.119 Paragraph (o) and 40 CFR 68.220. The findings identified during the audit – and the associated recommended actions – are documented in Appendix A.

1.0 PSM AUDIT

1910.119 (c) Employee Participation

Tyson has a written statement in its written plan (PSMP 201) to keep team members involved in the Process Safety Management program. Team members have been trained on ammonia and

its hazards. The refrigeration operator has been involved in development of components of the PSM program including development of standard operating procedures (SOPs) and completion of preventive maintenance (PM) tasks for the ammonia process, as well as the 2010 Process Hazards Analysis (PHA) revalidation for the refrigeration system.

1910.119 (d) Process Safety Information

Tyson had developed process safety information (PSI) prior to the completion of the facility PHAs. The site keeps material safety data sheets (MSDS) in various locations throughout the facility, and the ammonia MSDS and an ammonia safety summary are also kept in the PSM materials. The facility also has a copy of the IIAR Ammonia Data Book available.

The facility has developed PSI related to the technology of the ammonia refrigeration system. This information is detailed largely in the standard operating procedures (SOPs). The safe upper and lower limits information and consequences of deviation information are illustrated in the technical operating specifications (TOS) of the SOPs.

The site has a significant amount of information regarding the equipment in the process. The facility has documentation including materials of construction, P&IDs, electrical area classification statements, relief system design and design basis, design codes and standards employed, and material and energy balances.

The facility does not currently have a description of the safety systems for the process, which is generally completed using a Tyson-developed format.

The lead operator at the facility has taken advantage of the system shutdown to complete an extensive review of the piping and instrumentation diagrams (P&IDs) and has made significant red-lined revisions to the P&IDs. He has also completed piping labeling, unit marking, and valve tagging in conformance with Tyson corporate standards.

1910.119(e) Process Hazards Analysis

An initial Process Hazards Analysis (PHA) was conducted prior to system startup in 2000. A thorough revalidation in 2005 followed Tyson's internal corporate standard which evaluates the prior PHA, MOCs implemented since the previous PHA, and any incidents which occurred since the previous PHA. A second internal PHA revalidation was conducted in 2010. Discussions with the facility team member involved in this effort indicated that he felt that this was reflective of the complexity of the process, elicited effective controls on the process, and involved the refrigeration team members.

The recommendations from the PHAs had been addressed in a timely fashion.

1910.119(f) Operating Procedures

Tyson has developed written standard operating procedures (SOPs) for the covered process at the site. The procedures are detailed and are reviewed with covered team members. SOPs are maintained along with technical operation specifications (TOS). The SOPs include all operating phases, significant detail on the valves and specific operations, and are accurate for the pieces of equipment they cover.

Review of the TOS for several items of equipment showed that for the control bank operations, several instances of a PCV being marked as an FCV were identified. The facility operator had not completed a review of several SOPs and, as such, these SOPs had not been certified as reviewed on an annual basis. These SOPs are enumerated in the compliance checklist report, attached.

Standard operating procedures contain information regarding PPE, safety systems, and lockout/tagout.

The procedures are reviewed and certified annually, with signature copies retained by the lead operator. As noted above, several procedures have not been certified.

1910.119 (g) Training

Tyson follows an industry-standard OJT/OJE training program. Both refrigeration operators for the facility have attended Operator I training at the Garden City Ammonia Program (GCAP), and the lead operator attended GCAP Operator II in 2006. Endeavour found that there is no documentation of refresher training or a competency evaluation for the lead refrigeration operator at the facility. We recommend that an outside evaluation of competency be conducted.

All of this is documented in detailed individual employee training folders.

1910.119 (h) Contractors

Tyson has a written program for contractor qualifications as required by the PSM standard. Portions of the program are managed at the corporate level, where the EHS department acts as a gatekeeper in the review of contractor safety performance as a qualification to work on site. Contractors with a less-than-perfect safety record may be considered for work, but Tyson requires additional evaluation during their contract period.

The only contractors currently at the Montgomery City facility are the compressor inspectors from GEA/FES. All of the appropriate documentation for these contractors was on file at the site. The facility had not completed any projects which required long-term contractors on site, or the use of multiple trades.

1910.119 (i) Pre-Startup Safety Review

Tyson has a written program for conducting pre-startup safety reviews (PSSRs) that meets the PSM requirements. Tyson specifically requires facilities to conduct multiple PSSRs for projects where ammonia will be introduced to the process over several separate startups.

The Montgomery Facility had not completed any projects requiring PSSR since 2004.

1910.119 (j) Mechanical Integrity

The facility uses a checklist system to track preventive maintenance activities. The current checklist contains all of the facility's critical equipment. The facility completes Bulletin 109 inspections using computer-generated paper tracking forms. The facility has established a regular inspection program, and frequencies for tests and inspections appear to meet recognized and generally accepted good engineering practice (RAGAGEP).

The facility conducts regular vibration and oil analyses and has annual compressor preventive maintenance conducted by FES/GEA, which includes testing cutouts and compressor safeties. The facility also has routine non-destructive testing completed using company-owned equipment.

The facility conducts routine mechanical integrity assessments in accordance with industry convention. These are completed by Tyson personnel in conjunction with compliance audits on a three (3) year basis, which is more frequent than the industry five (5) year basis. Tyson is also completing non-destructive tests (NDT) of piping and vessels on a not more than five (5) year basis.

1910.119 (k) Hot Work Permits

Tyson has a written program for conducting hot work that includes the use of a hot work permit. The current permit form does not have a place to indicate that ducts and conveyors that could transmit sparks have been closed, shutdown, or otherwise managed.

The facility maintains hot work permits for activities on the ammonia refrigeration system in the project files for the life of the facility.

Only contractors who are certified welders are allowed to conduct hot work on the refrigeration system equipment. No hot work was being conducted during the audit.

1910.119 (l) Management of Change

The facility has a Management of Change procedure that includes provisions to address permanent and temporary changes to the refrigeration system. The Management of Change (MCF) form (online in the Tyson intranet) used to document the management of change process includes spaces to identify the technical basis for changes, information update requirements, and authorization requirements.

The facility has completed no changes requiring management of change since 2004.

1910.119 (m) Incident Investigation

The site has developed a written program for incident investigation in general conformance to the PSM requirements. The facility reported no releases of ammonia and had no documentation of ammonia incidents.

1910.119 (n) Emergency Planning and Response

The facility has an emergency action plan that is consistent with the requirements of 29 CFR 1910.38(a). The facility has only a single employee on site at any one time.

The facility has not obtained a memorandum of understanding with the local emergency response team. Endeavour recommends that one be obtained.

1910.119 (o) Compliance Audits

Compliance audits were completed in 2009 and 2011 and are well documented. Both audits were completed using the Tyson Foods internal audit protocol used for this audit.

Both audits had limited findings which were tracked using audit finding documentation sheets and written responses.

2.0 RMP Audit

Tyson completed and submitted a Risk Management Plan for the Montgomery City facility in 2000 at opening. The plan had been duly re-submitted in 2004 and 2009. The RMP had been resubmitted in 2014, just prior to the audit visit.

The RMP submission reported the parameters of the ammonia (toxic chemical) system that would create the potential for the most far-reaching consequences based on a worst-case release, as defined by the U.S. EPA. It appears that Tyson reported all of the required elements under the RMP.

The submittal appeared to be current and accurate.

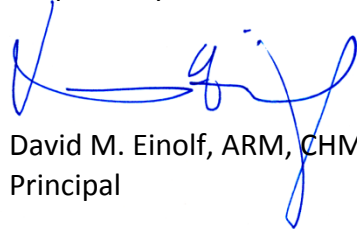
3.0 Conclusion

Endeavour EHS, LLC conducted a Process Safety Management and Accidental Release Risk Management compliance audit for the Tyson Fresh Meats Montgomery City, Missouri Forward Warehouse. The report above describes the findings detailed in the attached checklist report. A follow-up sheet for completing recommendations is also included as an appendix to this report.

The qualifications of the auditor are attached as Appendix C to this report. Mr. Einolf is a Certified Process Safety Auditor (#8) as certified by the Board of Environmental Audit Certifications (BEAC).

Please contact the undersigned directly should you have any additional questions or concerns about this report. Endeavour EHS, LLC appreciates the opportunity to provide this service to meet the requirements of the Tyson Foods, Inc. Consent Decree.

Respectfully submitted,



David M. Einolf, ARM, CHMM, CPEA, CPSA
Principal

cc: Timothy Jones, Esq., Tyson Foods
Tyler Dutton, Tyson Foods
Michael Chapman, Tyson Foods

Appendix A

Findings and Recommendations Report



Tyson Foods, Inc.

PSM/RMP Compliance Audit Nonconformance Report

Montgomery City Fwd Wh

Ammonia System

Start Date: June 18, 2014

End Date: July 09, 2014

Facilitator: Einolf, David, Endeavour EHS

Facility Representatives:

Jeramie Lorson, Refrigeration Engineer

Duane Miller, Refrigeration Supervisor

Mike McCuin, Regional PSM Manager

PSM/RMP Compliance Report	Document:
Issued By: Tyson PSM Services	Release Date: 11/4/2006 Revised Date: 2/2/2009

Audit Summary

Element	Section	Question	Answer	Assigned to	Priority	Due Date
B- Process Safety Information	Records Review	14 Does the Process Safety Information (PSI) include Safety systems for equipment in the process ? (interlocks, detection or suppression systems, PSMF 311)	No		2	1/8/2015
<p><u>Issue:</u> The facility has not detailed its safety systems in any consolidated location.</p> <p><u>Notes:</u> <u>Action Required for Closure:</u> Develop a summary of safety systems, such as Tyson form PSMF 311.</p>						
D- Operating Procedures	Records Review	5 Are the Technical Operating Specifications in the Operating Procedures consistent with the Process Safety Information ?	No		2	1/8/2015
<p><u>Issue:</u> Several SOPs for the control banks did not accurately describe the valve type.</p> <p><u>Notes:</u> SOPs CB-1 through CB-6 describe an FCV (250374, 250334, 250262, 250250, 250220, 250152) which should be a PCV. <u>Action Required for Closure:</u> Revise the operating procedures to accurately reflect the valve type installed.</p>						
D- Operating Procedures	Records Review	8 Have SOPs been reviewed and certified annually to assure they reflect current operating practices ? (SOP Initial Approval covers first year certification)	No		2	1/8/2015
<p><u>Issue:</u> Several SOPs had not been certified as reviewed annually.</p> <p><u>Notes:</u> The following SOPs were not certified for 2013/4: SOP-HTRECIRC; SOP-HP/THREC-1; SOP GHE & CB-17; and SOP-Oil Drain. <u>Action Required for Closure:</u> Review and certify those SOPs which have not been certified in the last annual cycle. Ensure all SOPs are reviewed and certified annually.</p>						
E- Training	Records Review	4 Is there documentation that indicates employees involved in operating the process have received refresher training on the Operating Procedures following the OJT/OJE training program at least every 3 years? (PSMF 607 is good for initial training and first refresher, PSMF 608 used thereafter)	No		2	1/8/2015
<p><u>Issue:</u> There was no record that the refrigeration lead had been provided with refresher training.</p> <p><u>Notes:</u> <u>Action Required for Closure:</u> Provide a review for the refrigeration lead to ensure that he is familiar with the ammonia refrigeration system and meets the standards set forth by Tyson for refrigeration training.</p>						
H- Mechanical Integrity	Records Review	9 Regarding NH3 processes, is Safety Relief Valve testing being performed by a Tyson VMR vendor on a representative sample of SRVs upon replacement?	No		2	1/8/2015
<p><u>Issue:</u> The facility has not sent SRVs to a Tyson VMR vendor upon replacement.</p> <p><u>Notes:</u> <u>Action Required for Closure:</u> Develop a program to forward sample RVs to FCX during the next replacement interval.</p>						
L- Emergency Planning and Response	Records Review	6 For facilities that choose not to respond to accidental releases, Is the facility included in the community emergency response plan as required by 40 CFR Part 68.90, are appropriate mechanisms in place to notify emergency responders in the event of a release, for facilities with flammables, is emergency response coordinated with the local fire department? (documentation on file from public safety officials indicating coordination has been done)	No		2	1/8/2015
<p><u>Issue:</u> There is no indication that facility personnel have coordinated with the city or county on accidental release issues.</p> <p><u>Notes:</u> <u>Action Required for Closure:</u> Review the facility's emergency response plan with appropriate city and county emergency personnel. Develop a memorandum of understanding or other statement of community assurance.</p>						

Appendix B

Completed Audit Checklist



Tyson Foods, Inc.

PSM/RMP Compliance Audit Report

Montgomery City Fwd Wh

Ammonia System

Start Date: June 18, 2014

End Date: July 09, 2014

Facilitator: Einolf, David, Endeavour EHS

Facility Representatives:

Jeramie Lorson, Refrigeration Engineer

Duane Miller, Refrigeration Supervisor

Mike McCuin, Regional PSM Manager

PSM/RMP Compliance Report	Document:	
Issued By: Tyson PSM Services	Release Date: 6/24/08	Revised Date: 11/4/2008

Audit Summary

<i>Element</i>	<i>Section</i>	<i>Question</i>	<i>Answer</i>	<i>Assigned to</i>	<i>Priority</i>	<i>Due Date</i>
A- Employee Participation	Interviews	5 Have Team Members been consulted or allowed to participate in a Process Hazard Analyses ?	Yes			
	<i>Issue:</i> <i>Notes:</i> The current refrigeration operator was included in the last revalidation.					
	<i>Action Required for Closure:</i>					
A- Employee Participation	Interviews	6 Have Team Members been consulted on the development of other elements of the Process Safety Management program ?	Yes			
	<i>Issue:</i> <i>Notes:</i> The sole refrigeration operator is responsible for the development of the facility's PSM program. He has been actively engaged in all aspects of the program.					
	<i>Action Required for Closure:</i>					
A- Employee Participation	Interviews	7 Are Team Member(s) aware of how to access the PSM Program Elements for the facility ?	Yes			
	<i>Issue:</i> <i>Notes:</i> Team members would have access to PSM files through the refrigeration operator. However, the facility has no current employees who are not a part of the refrigeration team.					
	<i>Action Required for Closure:</i>					
A- Employee Participation	On-site	4 Are the following PSMF 201 documents posted on the bulletin board Employee Awareness Information Form I, Employee Related Concerns Form II, PSM Meeting Minutes Form III and PSMF Form IV for PSM/RMP process operators?	Yes			
	<i>Issue:</i> <i>Notes:</i> The facility is not currently operating and has no employees other than those covered under the PSM process.					
	<i>Action Required for Closure:</i>					
A- Employee Participation	Records Review	1 Is there documentation to indicate that Team Members and their representative(s) are consulted on the Process Safety Management (PSM) Program 29CFR 1910.119? (PSMF 201 Form I for Employee Awareness and PSMF 201 Form IV for PSM/RMP process operators) **(Alchemy Records are adequate)	Yes			
	<i>Issue:</i> <i>Notes:</i> Tyson documents its PSM written program on a corporate shared website. Employee forms are maintained in individual employee training files.					
	<i>Action Required for Closure:</i>					

PSM/RMP Compliance Report	Document:
Issued By: Tyson PSM Services	Release Date: 6/24/08 Revised Date: 11/4/2008

Audit Summary

<i>Element</i>	<i>Section</i>	<i>Question</i>	<i>Answer</i>	<i>Assigned to</i>	<i>Priority</i>	<i>Due Date</i>
A- Employee Participation	Records Review	2 Do Team Members and their representative(s) participate in PSM/RMP Monthly Meetings, Process Hazard Analyses and other elements of the PSM Standard? **PSMF 201 Form III PSM Meeting Minutes	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> This is included in the corporate PSM standard which has been established for the facility. Employees participate in the process as developed. The facility maintains PSM meeting minutes with employee attendance records.		<u>Action Required for Closure:</u>		
A- Employee Participation	Records Review	3 Do Team Members and their representative(s) have access to Process Hazard Analyses and all other information developed as required by the PSM standard? **PSMF201 Form II Employee Concerns	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> All employees would have access to this documentation through the refrigeration operator.		<u>Action Required for Closure:</u>		
B- Process Safety Information	Records Review	1 Was Process Safety Information compiled and complete before conducting any Process Hazard Analysis (PHA) ? ** 29CFR 1910.119 Section d for PSI details	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility was constructed in 2000. The facility has all of the original PHA documentation, which indicates that the facility had adequate PSI at the time.		<u>Action Required for Closure:</u>		
B- Process Safety Information	Records Review	2 Does the Process Safety Information (PSI) contain a current MSDS or Chemical Properties Document of the highly hazardous chemicals used or produced by the process? **Verify most recent MSDS on file	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> All of these items are in the Airgas MSDS (dated 9/2012). Endeavour confirmed (from the Airgas website) that this is the most current MSDS.		<u>Action Required for Closure:</u>		
B- Process Safety Information	Records Review	3 Does the Process Safety Information (PSI) include a current Block Flow Diagram or simplified process flow diagram?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has a current block flow diagram.		<u>Action Required for Closure:</u>		
B- Process Safety Information	Records Review	4 Does the Process Safety Information (PSI) include a current Maximum Intended Inventory for chemicals in the process?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has a detailed maximum intended inventory, which appears to be accurate.		<u>Action Required for Closure:</u>		

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Audit Summary

<i>Element</i>	<i>Section</i>	<i>Question</i>	<i>Answer</i>	<i>Assigned to</i>	<i>Priority</i>	<i>Due Date</i>
B- Process Safety Information	Records Review	5 Does the Process Safety Information (PSI) include Technology of the Process and Process Chemistry? **Ammonia Data Book - Additionally, Block Flow Diagram, MSDS, Max Intended Inventory, Safe Upper and Lower Limits and Evaluation of Consequences of Deviation	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Safe upper and lower limits and consequences of deviation are reviewed and included in the SOPs for the appropriate units.		<u>Action Required for Closure:</u>		
B- Process Safety Information	Records Review	6 Does the Process Safety Information (PSI) include Safe Upper and Lower Limits for equipment? **Located in equipment SOPs	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Included in SOPs.		<u>Action Required for Closure:</u>		
B- Process Safety Information	Records Review	7 Does the Process Safety Information (PSI) include Evaluation of Consequences of Deviation from Safe Limits? **Located in the SOP Operating Limits	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Included in the SOPs for each process unit.		<u>Action Required for Closure:</u>		
B- Process Safety Information	Records Review	8 Does the Process Safety Information (PSI) include Materials of Construction for equipment in the process? **Piping MTR, Engineering Specs, Equipment cut sheet, U1-A, Valve Gasket Materials	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> This material is available for the system as a whole and part of the MOC materials.		<u>Action Required for Closure:</u>		
B- Process Safety Information	Records Review	9 Does the Process Safety information (PSI) include all equipment in the process and does it include Piping and Instrument Diagrams (P&ID's)?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has placed considerable effort into the development of the piping and instrumentation diagrams. The P&IDs are currently in redline format, but were clearly marked and easy to		<u>Action Required for Closure:</u>		
B- Process Safety Information	Records Review	10 Does the Process Safety Information (PSI) include Electrical Classification? (PSMF 306)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> A statement of electrical classification is included in the facility's PSI files. (PSMF 306)		<u>Action Required for Closure:</u>		
B- Process Safety Information	Records Review	11 Does the Process Safety Information (PSI) include a Relief System Design and Design Basis? (including isometric drawings required by Tyson Engineering Spec 15695)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility does not have isometric drawings for the relief system, but it does an SRV design basis. The facility is a very simple ammonia refrigeration system.		<u>Action Required for Closure:</u>		

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<i>Element</i>	<i>Section</i>	<i>Question</i>	<i>Answer</i>	<i>Assigned to</i>	<i>Priority</i>	<i>Due Date</i>
B- Process Safety Information	Records Review	12 Does the Process Safety Information (PSI) include a Ventilation System Design?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has a detailed ventilation system calculation for the machinery room.	<u>Action Required for Closure:</u>			
B- Process Safety Information	Records Review	13 Does the Process Safety Information (PSI) include material and energy balances ?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has an accurate material and energy balance.	<u>Action Required for Closure:</u>			
B- Process Safety Information	Records Review	14 Does the Process Safety Information (PSI) include Safety systems for equipment in the process ? (interlocks, detection or suppression systems, PSMF 311)	No		2	1/8/2015
		<u>Issue:</u> The facility has not detailed its safety systems in any consolidated location.				
		<u>Notes:</u>	<u>Action Required for Closure:</u> Develop a summary of safety systems, such as Tyson form PSMF 311.			
B- Process Safety Information	Records Review	15 Has the facility determined and documented that the process complies with Recognized And Generally Accepted Good Engineering Practices, Design Codes and Standards are employed and that existing equipment is designed and constructed in accordance with codes, standards or for practices no longer in general use is designed, maintained, inspected, tested and operated in a safe manner? (PSMF 309)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> This has been documented through a review by previous facility management. Form PSMF 309 has been completed.	<u>Action Required for Closure:</u>			
C- Process Hazard Analysis	Interviews	9 Have you participated in a PHA? (Project or PHA Revalidation) (Interview PSM Coordinator and/or person with appropriate experience and knowledge specific to the process being evaluated).	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The current refrigeration operator had been involved in the PHA revalidation.	<u>Action Required for Closure:</u>			
C- Process Hazard Analysis	Interviews	10 Have the actions that were taken to resolve PHA Recommendations been communicated to all affected Team Members? **PSMF _ _ _	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The refrigeration operator indicates that these were covered in PSM meetings.	<u>Action Required for Closure:</u>			

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<i>Element</i>	<i>Section</i>	<i>Question</i>	<i>Answer</i>	<i>Assigned to</i>	<i>Priority</i>	<i>Due Date</i>
C- Process Hazard Analysis	Interviews	11 Have PHAs identified and addressed the following: The hazards of the process? Previous incidents with likely potential for catastrophic consequences? Consequences of control failures? Facility siting? Human factors? (Ask about shift rotations, extended schedules, and other possible sources of error) and a qualitative evaluation of a range of possible safety and health effects of failure of controls on employees in the workplace?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Employees are comfortable that all issues have been addressed in the PHAs.		<u>Action Required for Closure:</u>		
C- Process Hazard Analysis	On-site	8 Do observations of a representative sample of process-related equipment indicate that obvious hazards have been identified, evaluated, and controlled (Verify action items closed and documented; Look for new issues not discovered in Project PHAs, either due to process changes or due to lack of Project PHA on an upgrade)?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Findings from the 2010 revalidation were addressed promptly. The facility uses an internal system to track PSM compliance. Appropriate hazards appear to have been addressed.		<u>Action Required for Closure:</u>		
C- Process Hazard Analysis	Records Review	1 Do records indicate that Project PHAs required by Management of Change (MOC) were conducted prior to introducing hazardous chemicals to a new or changed process?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has had no changes requiring PHAs.		<u>Action Required for Closure:</u>		
C- Process Hazard Analysis	Records Review	2 Does the Process Hazard Analysis evaluation use one or more of the following: A qualitative evaluation of a range of possible safety and health effects of failure of controls on employees in the workplace? PHA methodologies, What-if Check-list, What-if/Checklist, Hazard & Operability Study (HAZOP), Failure Mode and Effects Analysis (FMEA), Fault Tree Analysis (FTA) or Other appropriate methodology?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility's first PHA was completed in 2000 prior to the startup of the refrigeration system. The PHA was revalidated in 2005 and 2010. The first PHA used the What-If-/Checklist Methodology. The revalidations were completed using Tyson's internal PHA review methodology.		<u>Action Required for Closure:</u>		
C- Process Hazard Analysis	Records Review	3 Does the Methodology of the Process Hazard Analysis address the hazards of the process, previous incidents with likely potential for catastrophic consequences, consequences of failure of engineering and administrative controls, engineering and administrative controls applicable to the hazards, facility siting, human factors and a qualitative evaluation of a range of possible safety and health effects of failure of controls on employees in the workplace?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> All of these items were considered in the facility's PHAs.		<u>Action Required for Closure:</u>		

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Audit Summary

Element	Section	Question	Answer	Assigned to	Priority	Due Date
C- Process Hazard Analysis	Records Review	4 Are the Process Hazard Analyses (PHA) performed by teams with expertise in engineering and process operations, including at least one employee with experience and knowledge specific to the process being evaluated and one member knowledgeable in the specific PHA methodology used?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> PHA teams have included a representative from Tyson Corporate engineering or a member of the PSM Area management staff, as well as facility refrigeration supervisors, leads and operators.		<u>Action Required for Closure:</u>		
C- Process Hazard Analysis	Records Review	5 Has the facility developed a system to promptly address the PHA team's findings and recommendations; assure that recommendations are resolved and documented in a timely manner along with a written schedule of when the actions are to be completed; communication of recommendations and actions to Team Members whose job tasks may be affected by the recommendations or corrective actions ? **Team Members working in the general area must be informed - PSMF _ _ _	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The PHA items were addressed by the facility prior to its closure. There are no open action items.		<u>Action Required for Closure:</u>		
C- Process Hazard Analysis	Records Review	6 Do records indicate that PHAs are updated and that PHA Revalidations are conducted at least every five years by a qualified team?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Revalidations have been completed by Tyson Corporate personnel on a regular basis. The Tyson standard is to review MOC, Incident Investigations, Compliance Audits, and prior PHAs to develop a framework for revalidation.		<u>Action Required for Closure:</u>		
C- Process Hazard Analysis	Records Review	7 Are all initial PHAs, updates or revalidations, and documented resolutions kept for the life of the process?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has the documentation for all of the previous PHAs.		<u>Action Required for Closure:</u>		
D- Operating Procedures	Interviews	11 Do operating procedures provide clear instructions for safely conducting activities ?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u>		<u>Action Required for Closure:</u>		
D- Operating Procedures	Interviews	12 Do you have access to operating procedures to operate or maintain a covered process ?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Team members know where to find the operating procedures.		<u>Action Required for Closure:</u>		

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Audit Summary

<i>Element</i>	<i>Section</i>	<i>Question</i>	<i>Answer</i>	<i>Assigned to</i>	<i>Priority</i>	<i>Due Date</i>
D- Operating Procedures	Interviews	13 Were you involved in the review and/or recertification of the Operating Procedures to assure they reflect current operating practices?	Yes			
	<i>Issue:</i> <i>Notes:</i> The refrigeration lead had reviewed the operating procedures as part of the facility's recertification process.					
	<i>Action Required for Closure:</i>					
D- Operating Procedures	On-site	10 Are written operating procedures implemented and followed by system operators and do they reflect the current practices, including changes that result from Process Chemicals, Technology, Equipment, and/or Facilities ?	Yes			
	<i>Issue:</i> <i>Notes:</i> Based upon Endeavour's review, the facility had not had any relevant changes.					
	<i>Action Required for Closure:</i>					
D- Operating Procedures	Records Review	1 Do written operating procedures exist for operating and controlling covered process equipment?	Yes			
	<i>Issue:</i> <i>Notes:</i>					
	<i>Action Required for Closure:</i>					
D- Operating Procedures	Records Review	2 Do the Standard Operating Procedures provide clear instructions for conducting activities safely including steps for Initial Start-up, Normal Operations, Temporary Operations, Emergency Shutdowns, Conditions Requiring Emergency Shutdown, Emergency Operations, Normal Shutdown, Start-ups following a turnaround or emergency shutdown and (Pump Out Procedures if applicable)?	Yes			
	<i>Issue:</i> <i>Notes:</i> SOPs for the facility are based on the Tyson Corporate standard template. All of these items are found in the SOPs.					
	<i>Action Required for Closure:</i>					
D- Operating Procedures	Records Review	3 Do the Operating Procedures provide technical operating specifications including Operating Limits, Consequences of Process Deviation and Steps required for correcting or avoiding deviations in Safety and Control Systems and their functions?	Yes			
	<i>Issue:</i> <i>Notes:</i> This information is included in the SOPs.					
	<i>Action Required for Closure:</i>					
D- Operating Procedures	Records Review	4 Do the Operating Procedures provide Safety and Health Considerations by including a reference to the MSDS, Precautions necessary to prevent exposure, Engineering controls, Administrative controls, and Personal Protective Equipment, Control measures to be taken if physical contact or airborne exposure occurs *(refer to MSDS) , Quality Control for raw materials *(Shipping papers, VMR Chemical Vendor and Cold-Flo Test procedure) and Control of hazardous chemical inventory level and special or unique hazards? (PPE should be included in Task Steps such as pump out, valve cycling or line opening)	Yes			
	<i>Issue:</i> <i>Notes:</i> This information is included - either directly, or by reference - in the operating procedures.					
	<i>Action Required for Closure:</i>					

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Element	Section	Question	Answer	Assigned to	Priority	Due Date
D- Operating Procedures	Records Review	5 Are the Technical Operating Specifications in the Operating Procedures consistent with the Process Safety Information ?	No		2	1/8/2015
		<u>Issue:</u> Several SOPs for the control banks did not accurately describe the valve type.				
		<u>Notes:</u> SOPs CB-1 through CB-6 describe an FCV (250374, 250334, 250262, 250250, 250220, 250152) which should be a PCV.	<u>Action Required for Closure:</u> Revise the operating procedures to accurately reflect the valve type installed.			
D- Operating Procedures	Records Review	6 Are operating procedures accessible to employees who work in or maintain a process ?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Operating procedures are available to employees in both printed form and on-line. Certified copies are kept in printed form by the refrigeration operator.	<u>Action Required for Closure:</u>			
D- Operating Procedures	Records Review	7 Have operating procedures been changed or updated to reflect current operating practices that have resulted from changes in Process Chemicals, Technology, Equipment and/or Facilities ?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Operating procedures are reviewed and updated as necessary as part of the MOC process.	<u>Action Required for Closure:</u>			
D- Operating Procedures	Records Review	8 Have SOPs been reviewed and certified annually to assure they reflect current operating practices ? (SOP Initial Approval covers first year certification)	No		2	1/8/2015
		<u>Issue:</u> Several SOPs had not been certified as reviewed annually.				
		<u>Notes:</u> The following SOPs were not certified for 2013/4: SOP-HTRECIRC; SOP-HP/THREC-1; SOP GHE & CB-17; and SOP-Oil Drain.	<u>Action Required for Closure:</u> Review and certify those SOPs which have not been certified in the last annual cycle. Ensure all SOPs are reviewed and certified annually.			
D- Operating Procedures	Records Review	9 Have safe work practices been developed and implemented for employees and contractors to control hazards during system maintenance activities such as Lockout/ Tagout, Confined Space Entry, Line Opening, Control of entry/egress from facility by maintenance, contractor, laboratory or other support personnel ? (LO/TO Program, Confined Space Permit/Program, Line Opening Permit/Procedure and Contractor Program)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The program considerations are detailed in each of the pertinent SOPs.	<u>Action Required for Closure:</u>			
E- Training	Interviews	5 Has your training emphasized specific Safety and Health Hazards and Emergency Operations including Shutdown and Safe Work Practices applicable to their job tasks?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Employees are well aware of the hazards of ammonia.	<u>Action Required for Closure:</u>			

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Audit Summary

<i>Element</i>	<i>Section</i>	<i>Question</i>	<i>Answer</i>	<i>Assigned to</i>	<i>Priority</i>	<i>Due Date</i>
E- Training	Interviews	6 Have you been consulted regarding the frequency of refresher training for operating the process to ensure refresher training schedule is appropriate ?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u>	<u>Action Required for Closure:</u>			
E- Training	Records Review	1 For employees involved in operating a process does the initial and refresher training records contain the identity of the employee, the date(s) of the training, and the means used to verify that the employee understood the training?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> For those employees who have received this training, all training is adequately documented.	<u>Action Required for Closure:</u>			
E- Training	Records Review	2 Has each employee been fully trained on the related Operating Procedures before being assigned tasks to manage the current or new process? (PSM OJT/OJE training program)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> All employees go through a step-wise OJT/OJE process before being able to operate the process.	<u>Action Required for Closure:</u>			
E- Training	Records Review	3 Has each employee involved in operating a process been trained in an overview of the process and are they following the OJT/OJE training program using the Operating Procedures including steps for all operating phases applicable to the job duties of the employees? (Block Flow Diagram, PSMF 607 and PSMF 608)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Employees review the operating procedures as part of their training.	<u>Action Required for Closure:</u>			
E- Training	Records Review	4 Is there documentation that indicates employees involved in operating the process have received refresher training on the Operating Procedures following the OJT/OJE training program at least every 3 years? (PSMF 607 is good for initial training and first refresher, PSMF 608 used thereafter)	No		2	1/8/2015
		<u>Issue:</u> There was no record that the refrigeration lead had been provided with refresher training.				
		<u>Notes:</u>	<u>Action Required for Closure:</u> Provide a review for the refrigeration lead to ensure that he is familiar with the ammonia refrigeration system and meets the standards set forth by Tyson for refrigeration training.			
F- Contractors	Interviews	5 Have contractors been informed of the known fire, explosion, or toxic release related to their work and the processes in which they are involved? Have they been informed of the applicable provisions of the plant's emergency action plan? Have work practices to control their entrance, presence, and exit to covered process areas been implemented? Has the contract employer assured that they follow the safety rules of the facility ? (If no contractor available question is N/A)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> This information is covered in the facility's contractor safety program which is shared with contractors and their employees.	<u>Action Required for Closure:</u>			

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F- Contractors	On-site	4 Has the plant controlled contractor entrance, presence, and exit from Tyson facilities? Do contractors follow the safety rules of the facility i.e.. Smoking policies, safe work, etc ? (Sign In Logs)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility is secured. Contractors can only access the facility through admission from the refrigeration operator.	<u>Action Required for Closure:</u>			
F- Contractors	Records Review	1 Does the program include all contractors performing maintenance or repair, turnaround, major renovation or specialty work on or adjacent to covered processes? (Contractor Safety Program)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility only has a single contractor (GEA/FES). No other contractor services have been used.	<u>Action Required for Closure:</u>			
F- Contractors	Records Review	2 Are the following Tyson Responsibilities being met when selecting a contractor: Has the information regarding the contractor's safety performance and programs been obtained and evaluated? Are the contract employers informed of known potential fire, explosion, or toxic release hazards related to the contractor? Explained the applicable provisions of the emergency action plan required by 29CFR1910.119(n)? The entrance and exit of contractor employees and sub contractor employees? Safe work practices and procedures to follow when working at the facility? Maintain a contract employee injury and illness log related to the contractor's work in process areas? (Contractor Program and PSM Pre-Qual Package)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Contractors are provided with an orientation package to the facility which they share with their employees prior to starting a job. They complete forms CQ-2 and CQ-3.	<u>Action Required for Closure:</u>			
F- Contractors	Records Review	3 Are the following Contractor Responsibilities being met: Assure their employees are trained in safe work practices needed to perform the job? Assure their employees are instructed in the known potential fire, explosion, or toxic release hazards related to the job and the applicable provisions of the emergency action plan? Document the required training with employee name, date of the training and the means to verify their employees have understood the training? Assure their employees follow the facility safety rules and work practices? Advise the plant of unique hazards presented by the contractor's work ? (Verify Form CQ-2, CQ-3, CQ-4 and CQ-5)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Signed CQ-2 and CQ-3 forms are maintained at the facility.	<u>Action Required for Closure:</u>			
G- Pre-Startup Safety Review	Interviews	7 Were you involved in a Pre-Startup Safety Review for process changes that verified: the construction and equipment was installed in accordance with design specifications prior to introducing highly hazardous chemicals to a process? (Interview PSM Coordinator and/or person with appropriate experience and knowledge specific to the process where PSSR was performed)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has had no changes since 2004. No current employees were present.	<u>Action Required for Closure:</u>			

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G- Pre-Startup Safety Review	Interviews	8 Are safety, operating, maintenance, and emergency procedures in place prior to introduction of highly hazardous chemicals into a process and are they adequate?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The PSSR program requires that this be considered prior to the signature on the PSSR form.	<u>Action Required for Closure:</u>			
G- Pre-Startup Safety Review	Interviews	9 During the PSSR, were PHA recommendations reviewed to ensure that action items required to be completed before start up were completed prior to startup and introduction of highly hazardous chemicals into a new process?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> This is a part of the PSSR process.	<u>Action Required for Closure:</u>			
G- Pre-Startup Safety Review	Interviews	10 Were you informed and trained on changed processes that affected your job duties prior to startup of the new or modified process(es)?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has had no changes since 2004.	<u>Action Required for Closure:</u>			
G- Pre-Startup Safety Review	Records Review	1 Has a pre-startup safety review been performed for New Facility/ Processes, Modification to an existing process when the change is significant enough to require Management of Change?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has had no changes since 2004.	<u>Action Required for Closure:</u>			
G- Pre-Startup Safety Review	Records Review	2 Do pre-startup safety reviews confirm that prior to the introduction of highly hazardous chemicals to a process, construction and equipment is in accordance with design specifications?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> These issues are addressed in the facility's written PSSR program.	<u>Action Required for Closure:</u>			
G- Pre-Startup Safety Review	Records Review	3 Do pre-startup safety reviews confirm, that prior to the introduction of highly hazardous chemicals to a new Facility/ new Covered Process, that a PHA has been performed and recommendations resolved or implemented before startup?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> PHA recommendations are reviewed and implemented during the design and construction process. Tyson's corporate personnel review changes to determine if a PHA is needed.	<u>Action Required for Closure:</u>			
G- Pre-Startup Safety Review	Records Review	4 Do pre-startup safety reviews confirm that, prior to the introduction of highly hazardous chemicals to a process, safety, operating, maintenance, and emergency procedures in place and adequate?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has had no changes since 2004.	<u>Action Required for Closure:</u>			

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G- Pre-Startup Safety Review	Records Review	5 Do pre-startup safety reviews confirm that, prior to the introduction of highly hazardous chemicals to a Modified Process, Management of Change requirements have been met?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has had no changes since 2004.				<u>Action Required for Closure:</u>
G- Pre-Startup Safety Review	Records Review	6 Do pre-startup safety reviews confirm that, prior to the introduction of highly hazardous chemicals to a process, applicable training of each employee involved in operating the process been completed?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has had no changes since 2004.				<u>Action Required for Closure:</u>
H- Mechanical Integrity	Interviews	13 Are there written preventive maintenance procedures for maintaining process equipment?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Each of the pieces of equipment has a written PM procedure.				<u>Action Required for Closure:</u>
H- Mechanical Integrity	Interviews	14 Have you been trained to assure performance of assigned tasks in a safe manner?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The refrigeration operator indicates that he has received training on the maintenance tasks he has been requested to complete.				<u>Action Required for Closure:</u>
H- Mechanical Integrity	Interviews	15 Is frequency of inspections and tests appropriate as indicated by previous operating experiences, inspections or testing?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Inspection and test frequencies are largely determined at a corporate level based on manufacturer's recommendations, IIAR guidelines and prior experience.				<u>Action Required for Closure:</u>
H- Mechanical Integrity	Interviews	16 Are corrections made in a timely manner for equipment deficiencies that are outside acceptable limits and are necessary means taken to assure safe operation?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u>				<u>Action Required for Closure:</u>
H- Mechanical Integrity	On-site	12 Are maintenance materials, spare parts, and equipment suitable for the process application for which they will be used?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility uses only OEM parts for the equipment.				<u>Action Required for Closure:</u>

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H- Mechanical Integrity	Records Review	1 Does the written mechanical integrity program include: pressure vessels, storage tanks, heat exchangers, piping systems, control valves, supports, safety relief valves, condensers, compressors, pumps, evaporators, emergency shutdown systems, system controls such as detection systems, ventilation systems, alarms and interlocks? (Verify that the facility is using Tyson's corporate PSM program)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility's preventive maintenance (PM) program includes all of these items.		<u>Action Required for Closure:</u>		
H- Mechanical Integrity	Records Review	2 Are there written preventive maintenance procedures to maintain the on-going integrity of process equipment? (Verify presence of SAP PM or other MMS)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Each of the pieces of equipment has a written PM procedure.		<u>Action Required for Closure:</u>		
H- Mechanical Integrity	Records Review	3 Is training provided to all employees involved in maintaining the process equipment?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility would use third-parties to conduct significant maintenance on equipment. The single employee who is responsible for routine maintenance has received training through GCAP and prior refrigeration supervisors.		<u>Action Required for Closure:</u>		
H- Mechanical Integrity	Records Review	4 Are annual inspections performed on process equipment included in the program? (Such as IIAR 109 for NH3 refrigeration or other format for non-refrigeration processes)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Endeavour's review indicates that the facility has PM instructions for all pieces of equipment. The facility is completing IIAR Bulletin 109 checks.		<u>Action Required for Closure:</u>		
H- Mechanical Integrity	Records Review	5 Do inspection and test procedures follow good engineering practices? (Refer to Tyson PSM-PMs)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility follows the IIAR Bulletin 109 recommendations as well as appropriate manufacturer's recommendations. The facility conducts compressor vibration, cutout and oil analysis on a regular basis.		<u>Action Required for Closure:</u>		
H- Mechanical Integrity	Records Review	7 Regarding NH3 processes, are oil analyses being performed quarterly for each compressor?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility conducts quarterly oil analyses for those compressors which are running.		<u>Action Required for Closure:</u>		

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H- Mechanical Integrity	Records Review	8 Regarding NH3 processes, are vibration analyses being performed every 6 months for all screw compressors?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility uses FES/GEA to conduct these analyses, and they are done on a regular basis for those compressors operable at the time of the visit.	<u>Action Required for Closure:</u>			
H- Mechanical Integrity	Records Review	9 Regarding NH3 processes, is Safety Relief Valve testing being performed by a Tyson VMR vendor on a representative sample of SRVs upon replacement?	No		2	1/8/2015
		<u>Issue:</u> The facility has not sent SRVs to a Tyson VMR vendor upon replacement.				
		<u>Notes:</u>	<u>Action Required for Closure:</u> Develop a program to forward sample RVs to FCX during the next replacement interval.			
H- Mechanical Integrity	Records Review	10 Does the documented inspection or tests performed include the Date of the inspection or test, Name of person performing the procedure, Serial number or other equipment identification number, Procedures that were performed, Description of inspection or test, Results of the inspection or test and a place for operator to state if he/she has been trained to perform the PM?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Each of these entries is present on the documents for the test, as well as on the PM records.	<u>Action Required for Closure:</u>			
H- Mechanical Integrity	Records Review	11 Are equipment deficiencies found during the inspections that are outside acceptable maintenance conditions corrected before further use or in a safe and timely manner to ensure safe operation?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility would either conduct applicable maintenance or enlist the aid of a contractor to complete.	<u>Action Required for Closure:</u>			
H- Mechanical Integrity	Records Review	17 Regarding NH3 processes, are Level 1 compressor inspections being performed annually on each compressor by a Tyson VMR Vendor? **Includes screw and reciprocating compressors; excludes rotary vane compressors(???). Safeties associated with rotary vane comps: Low suction prssr, high disch temp, high disch pssr, high oil temp, cooling water flow, oil pump failure.	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> These assessments are being completed by FES/GEA.	<u>Action Required for Closure:</u>			
I- Hot Work Permit	Interviews	5 Have hot work permits been issued for all hot work operations conducted on or near a process covered by this standard?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u>	<u>Action Required for Closure:</u>			

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I- Hot Work Permit	Interviews	6 Are hot work permits posted at the location of the hot work until expiration of the permit; Authorized in writing by the individual(s) responsible for all welding and cutting operations; Is a fire extinguisher in place in the immediate area of the hot work while it is being performed; Is a fire watch maintained during and at least 30 minutes after hot work operations?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> This is part of the requirements for the hot work permit program.				<u>Action Required for Closure:</u>
I- Hot Work Permit	Interviews	7 Has hot work permitting been successful in prohibiting welding in unauthorized areas, in sprinkled buildings while such protection is impaired, in the presence of explosive atmospheres, and in storage areas for large quantities of readily ignitable materials?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> No welding appears to have been conducted in unauthorized areas.				<u>Action Required for Closure:</u>
I- Hot Work Permit	On-site	4 Are spot checks of current welding and cutting operations in compliance with the requirements of 29 CFR 1910.119(k) and 29 CFR 1910.252(a).	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> No open hot work permits were available during the audit.				<u>Action Required for Closure:</u>
I- Hot Work Permit	Records Review	1 Have hot work permits been issued for all hot work operations conducted on or near a process covered by this standard?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has a well-established process for issuance of hot work permits.				<u>Action Required for Closure:</u>
I- Hot Work Permit	Records Review	2 Are MOC-related hot work permits for PSM related projects kept in the project file for the life of the facility and authorized in writing, by the individual(s) responsible for all welding and cutting operations? (Hot Works for non-MOC work is maintained until the next Compliance Audit after which they are to be purged)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has not had any ammonia system related hot work conducted.				<u>Action Required for Closure:</u>
I- Hot Work Permit	Records Review	3 Has management Established areas and procedures for safe welding and cutting based on fire potential; Designated the individual(s) responsible for authorizing cutting and welding operations in process areas; Ensured that welders, cutters and supervisors are trained in the safe operation of their equipment, and established a process to advise outside contractors working on their site about all hot work permitting programs? (Reference facility's Welding and Brazing Policy)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> This is detailed in the facility's policy.				<u>Action Required for Closure:</u>

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J- Management of Change	Interviews	5 Is Management of Change implemented to manage process changes to PSM covered chemicals, technology, equipment, procedures and changes to facilities that affect a covered process (except for "replacements in kind")?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility makes use of the Tyson MOC process.				<u>Action Required for Closure:</u>
J- Management of Change	Interviews	6 When a change to the Covered Process is made, have you been trained on related tasks that you are required to perform prior to start-up of that process?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has not had any changes subject to MOC since 2004.				<u>Action Required for Closure:</u>
J- Management of Change	Records Review	1 Is there a Management of Change procedure for managing process changes to process chemicals, technology, equipment, and procedures and changes to facilities that affect a covered process (except for "replacements in kind")?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The written program is described in Tyson Foods' procedure PSMP-1101.				<u>Action Required for Closure:</u>
J- Management of Change	Records Review	2 Are employees involved in the operating process and maintenance whose job tasks will be affected by change informed of and trained in the change prior to start-up of the process? (Reference PSM Meeting Minutes/Employee Consultations, Operator Training documents)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has not had any changes subject to MOC since 2004.				<u>Action Required for Closure:</u>
J- Management of Change	Records Review	3 Is the Process Safety Information as referenced in paragraphs (d)(1), (d)(2) and (d)(3) of the OSHA PSM Standard updated as required for process changes? (Reference: PSI page of the applicable Tyson MOC form, SOP(s) and MSDS)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has not had any changes subject to MOC since 2004.				<u>Action Required for Closure:</u>
J- Management of Change	Records Review	4 Are the Standard Operating Procedures or practices updated as required by paragraph (f) of OSHA Regulation 1910.119 if changed?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has not had any changes subject to MOC since 2004.				<u>Action Required for Closure:</u>
K- Incident Investigation	Interviews	7 Have all incidents that resulted or could have reasonably resulted in a catastrophic release of highly hazardous chemicals in the workplace been investigated?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Team members indicate that all ammonia releases are being investigated.				<u>Action Required for Closure:</u>

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K- Incident Investigation	Interviews	8 Who were the investigation team members/contractors and do they include at least one person knowledgeable in the process involved in the incident, and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident?	Yes			
	<u>Issue:</u>					
	<u>Notes:</u>	The facility has not reported any incidents during the lifetime of the process. The facility is currently closed and only employs two operators.	<u>Action Required for Closure:</u>			
K- Incident Investigation	Interviews	9 Should a contractor employee be included on the team if the incident involved work of the contractor?	Yes			
	<u>Issue:</u>					
	<u>Notes:</u>	Contractors are included if they are involved in the incident.	<u>Action Required for Closure:</u>			
K- Incident Investigation	Interviews	10 Have the investigation reports and findings been posted for all Team Members on bulletin board and reports/findings reviewed with other affected Team Members? (such as "off-shift" operators)	Yes			
	<u>Issue:</u>					
	<u>Notes:</u>	The facility has not reported any incidents during the lifetime of the process. The facility is currently closed and only employs two operators.	<u>Action Required for Closure:</u>			
K- Incident Investigation	Records Review	1 Has each incident been investigated which resulted in or could have reasonably resulted in a catastrophic release of highly hazardous chemicals in the workplace?	Yes			
	<u>Issue:</u>					
	<u>Notes:</u>	The facility has not reported any incidents during the lifetime of the process. The facility is currently closed and only employs two operators.	<u>Action Required for Closure:</u>			
K- Incident Investigation	Records Review	2 Have incident investigations been initiated as promptly as possible, no later than 48 hours following the incident?	Yes			
	<u>Issue:</u>					
	<u>Notes:</u>	The facility has not reported any incidents during the lifetime of the process. The facility is currently closed and only employs two operators.	<u>Action Required for Closure:</u>			
K- Incident Investigation	Records Review	3 Does the incident investigation team consist of at least one person knowledgeable in the process involved in the incident, with appropriate knowledge and experience to thoroughly investigate and analyze the incident and a contractor employee if the incident involved work of the contractor?	Yes			
	<u>Issue:</u>					
	<u>Notes:</u>	The facility has not reported any incidents during the lifetime of the process. The facility is currently closed and only employs two operators.	<u>Action Required for Closure:</u>			

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K- Incident Investigation	Records Review	4 Do incident investigation reports include at a minimum the date of the incident, date the investigation began, a description of the incident, the factors that contributed to the incident, and any recommendations resulting from the investigation?	Yes			
	<u>Issue:</u>					
	<u>Notes:</u>	The facility has not reported any incidents during the lifetime of the process. The facility is currently closed and only employs two operators.	<u>Action Required for Closure:</u>			
K- Incident Investigation	Records Review	5 Are incident investigation recommendations promptly addressed and resolved in a timely manner? Are corrective actions documented/implemented/posted/communicated to affected Team Members and contractors where applicable? Are investigation findings, recommendations, corrective actions posted for employee review?	Yes			
	<u>Issue:</u>					
	<u>Notes:</u>	The facility has not reported any incidents during the lifetime of the process. The facility is currently closed and only employs two operators.	<u>Action Required for Closure:</u>			
K- Incident Investigation	Records Review	6 Are incident investigation reports retained for review during the five-year revalidation? (Tyson records retention requires 6 years after resolution)	Yes			
	<u>Issue:</u>					
	<u>Notes:</u>	The facility has not reported any incidents during the lifetime of the process. The facility is currently closed and only employs two operators.	<u>Action Required for Closure:</u>			
L- Emergency Planning and Response	Interviews	11 Is the Emergency Action Plan made available for employee review?	Yes			
	<u>Issue:</u>					
	<u>Notes:</u>	Emergency Action Plan is available from the refrigeration operator.	<u>Action Required for Closure:</u>			
L- Emergency Planning and Response	Interviews	12 Are you aware of the Emergency Action Plan and have you and other Team Members been provided training for the duties you are expected to perform during an emergency?	Yes			
	<u>Issue:</u>					
	<u>Notes:</u>	Interviews with both employees indicate that they are aware of their responsibilities under the emergency action plan.	<u>Action Required for Closure:</u>			
L- Emergency Planning and Response	On-site	10 Do observations of the evacuation routes and exit signs indicate that they are NOT blocked, locked, or barricaded and there are readily visible exit signs for evacuation routes leading to safe locations?	Yes			
	<u>Issue:</u>					
	<u>Notes:</u>	Exit routes appear to be clear.	<u>Action Required for Closure:</u>			

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L- Emergency Planning and Response	Records Review	1 Has the written emergency plan been established and implemented for the entire plant to include: escape procedures and routes, procedures for post-evacuation employee accountability, preferred means to report emergencies, duties and procedures of employees who remain to operate critical equipment and/or perform rescue and medical duties? (Reference: 29CFR 1910.38)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> All of this information is in the facility's emergency action plan, which is written.	<u>Action Required for Closure:</u>			
L- Emergency Planning and Response	Records Review	2 Have the names of persons or locations to contact for more action plan information been included? Has training on contents of the emergency action plan been performed for Team Members? (Names/assignments listed in EAP and training/refresher training documented annually)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> All of this information is in the facility's emergency action plan.	<u>Action Required for Closure:</u>			
L- Emergency Planning and Response	Records Review	3 Is the plan reviewed with each employee covered by the plan initially when the plan is developed, whenever the employee's responsibilities or designated action under the plan change, and whenever the plan is changed?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility currently has only two employees who have been provided training in the emergency response plan.	<u>Action Required for Closure:</u>			
L- Emergency Planning and Response	Records Review	4 Is there sufficient human resources designated and trained to assist in the safe and orderly emergency evacuation of employees? (Are assignments made to supervision to ensure all departments are evacuated in a timely manner during an emergency)?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility currently has only two employees who have been provided training in the emergency response plan.	<u>Action Required for Closure:</u>			
L- Emergency Planning and Response	Records Review	5 Does the emergency action plan cover procedures for handling small releases? (Check EAP and SOPs / requirements for PPE)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The emergency response plan addresses small releases of ammonia.	<u>Action Required for Closure:</u>			
L- Emergency Planning and Response	Records Review	6 For facilities that choose not to respond to accidental releases, Is the facility included in the community emergency response plan as required by 40 CFR Part 68.90, are appropriate mechanisms in place to notify emergency responders in the event of a release, for facilities with flammables, is emergency response coordinated with the local fire department? (documentation on file from public safety officials indicating coordination has been done)	No		2	1/8/2015
		<u>Issue:</u> There is no indication that facility personnel have coordinated with the city or county on accidental release issues.				
		<u>Notes:</u>	<u>Action Required for Closure:</u> Review the facility's emergency response plan with appropriate city and county emergency personnel. Develop a memorandum of understanding or other statement of community assurance.			

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Audit Summary

<i>Element</i>	<i>Section</i>	<i>Question</i>	<i>Answer</i>	<i>Assigned to</i>	<i>Priority</i>	<i>Due Date</i>
L- Emergency Planning and Response	Records Review	7 For facilities that respond to accidental releases, Are procedures in place for informing the public and local emergency response agencies about releases, Is the emergency response plan coordinated with the community emergency response plan developed under 42 U.S.C. 11003? (documentation on file from public safety officials indicating coordination has been done)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u>				<u>Action Required for Closure:</u>
L- Emergency Planning and Response	Records Review	8 Is an alarm system established and implemented which complies with 29 CFR 1910.165 which requires alarms distinctive for each purpose of the alarm, capable of being perceived above ambient noise and light levels by all employees in the affected portions of the workplace, distinctive and recognizable as a signal to evacuate the work area or perform actions designated under the plan, maintained in operating condition, tested appropriately and restored to normal operating condition as soon as possible after tests, non-supervised systems tested no less than every two months, supervised systems tested at least annually, serviced, maintained, and tested by appropriately trained persons, and unobstructed, conspicuous and readily accessible, if they are manual alarm systems? (Review documented PMs and/or alarm testing records. Safety and/or Maintenance may have records of testing)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The alarm system in the plant consists of radio communications. Responsible personnel carry radios and cell phones.				<u>Action Required for Closure:</u>
L- Emergency Planning and Response	Records Review	9 If responding to releases, does the written emergency response plan meet the requirements of CFR 1910.120(a) and (q) ?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility's emergency response plan is well written and up-to-date.				<u>Action Required for Closure:</u>
M- Risk Management Program and Plan	Records Review	1 Has a Management System been developed to ensure the elements of RMP are managed properly and is an Organizational Chart with responsibilities on file and up-to-date?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The facility has only a single employee who is responsible for some aspects of the RMP program. The remainder of the program elements are the responsibility of the Area PSM Manager.				<u>Action Required for Closure:</u>
M- Risk Management Program and Plan	Records Review	2 Is the updated Risk Management Plan on file at facility and submitted to EPA as required?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> The current plan is up-to-date and was re-submitted in a timely fashion.				<u>Action Required for Closure:</u>

PSM/RMP Compliance Report	Document:
Issued By: Tyson PSM Services	Release Date: 6/24/08 Revised Date: 11/4/2008

Audit Summary

<i>Element</i>	<i>Section</i>	<i>Question</i>	<i>Answer</i>	<i>Assigned to</i>	<i>Priority</i>	<i>Due Date</i>
M- Risk Management Program and Plan	Records Review	3 Are the Offsite Consequence Analyses on file and up-to-date to include One worst-case scenario for toxics, One worst-case scenario for flammables, Additional worst-case scenario if different public receptors affected, One alternative scenario for EACH toxic substance and One alternative scenario for ALL flammable substances held above the threshold quantity?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u>				<u>Action Required for Closure:</u>
M- Risk Management Program and Plan	Records Review	4 Is the facility 5-year accident history available and up-to-date? (Verify Executive Summary is also up-to-date and matches accident history section of RMP)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u>				<u>Action Required for Closure:</u>
M- Risk Management Program and Plan	Records Review	5 Are the facility Emergency Contacts in the RMP Up-to-date? (Required to be updated with EPA within 30 days of a change)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u>				<u>Action Required for Closure:</u>
M- Risk Management Program and Plan	Records Review	6 Is the person responsible for RMP at the facility aware of the changes requiring corrections, updates or re-submittal of the RMP with the RMP Reporting Center? (Review PSMF 1501 - RMP Update Triggers)	Yes			
		<u>Issue:</u>				
		<u>Notes:</u>				<u>Action Required for Closure:</u>
N- Compliance Audits	Records Review	1 Has the facility certified that it has evaluated compliance with Process Safety and Risk Management Programs at least every three years to verify that the procedures and practices developed for the PSM and RMP standards are adequate and being followed?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Audits have a certification page. The facility had audits completed in 2009 and 2011.				<u>Action Required for Closure:</u>
N- Compliance Audits	Records Review	2 Have the compliance audits been performed by at least one person knowledgeable in the process?	Yes			
		<u>Issue:</u>				
		<u>Notes:</u> Audits have been completed by a Tyson Area PSM manager who is experienced in ammonia refrigeration.				<u>Action Required for Closure:</u>

PSM/RMP Compliance Report	Document:		
Issued By: Tyson PSM Servies	Release Date:	6/24/08	Revised Date: 11/4/2008

Audit Summary

<i>Element</i>	<i>Section</i>	<i>Question</i>	<i>Answer</i>	<i>Assigned to</i>	<i>Priority</i>	<i>Due Date</i>
N- Compliance Audits	Records Review	3 Are the two most recent compliance audits kept on file at the facility?	Yes			
	<i>Issue:</i> <i>Notes:</i> 2009 and 2011 audits were provided in hard copy. Audits also available electronically. <i>Action Required for Closure:</i>					
N- Compliance Audits	Records Review	4 Were reports of findings developed?	Yes			
	<i>Issue:</i> <i>Notes:</i> Tyson uses an audit tool which details the findings of the audit. <i>Action Required for Closure:</i>					
N- Compliance Audits	Records Review	5 Was response to audit findings documented along with documentation of corrective actions for deficiencies?	Yes			
	<i>Issue:</i> <i>Notes:</i> Documentation of corrective actions is in place for audit findings. <i>Action Required for Closure:</i>					

Appendix C

Curricula vitae

David M. Einolf, ARM, CHMM, CPEA, CPSA

David M. Einolf, ARM, CPEA, CPSA, CHMM, REA



Mr. David M. Einolf has more than 20 years' experience in developing, implementing, and managing environmental, health and safety (EHS) programs for regulatory compliance, mergers and acquisitions due diligence and site assessments, risk management, and process safety management (PSM).

Mr. Einolf is skilled in the assessment of risk to business and commercial operations. Blending his skills in environment, health and safety with a business operations background and education, Mr. Einolf provides clients with advice on managing critical risk issues. Mr. Einolf has assisted numerous clients with the development of PSM programs, chemical risk (REACH, RoHS, WEEE) programs, and business continuity plans.

Mr. Einolf has also worked extensively with clients on program development – for both compliance and auditing. Building on skills in developing management systems, Mr. Einolf can lead inside and outside compliance teams for success in multimedia programs.

Mr. Einolf has worked extensively in the ammonia refrigeration field, completing more than 150 process hazards analyses, more than 250 compliance audits, and numerous mechanical integrity (MI) inspections. Mr. Einolf has also developed written PSM programs for more than 50 facilities.

Publications/Presentations

- *HAZWOPER Incident Command: A Manual for Emergency Responders*. 1998. Government Institutes, Rockville, MD, 188 pp.
- *PSM/RMP Auditing Handbook*. 1999. Government Institutes, Rockville, MD, 328 pp. (with Luverna K. Menghini)

Registration

- Certified Professional Environmental Auditor (BEAC)
- Certified Process Safety Auditor (BEAC) #8
- Certified Hazardous Materials Manager (CHMM), #3217
- Associate in Risk Management (ARM), Insurance Institute of America
- California Registered Environmental Assessor

Fields of Competence

- Process Safety Management (PSM) programs
- Risk Management Programs (RMP)
- Pipeline Risk Management Programs
- Transportation Risk Management

Education

- M.B.A, Business Policy, University of Chicago, 1989
- M.S., Marine Biochemistry, University of Delaware, 1984
- B.A., Earth Sciences, The Johns Hopkins University, 1981
- HAZWOPER, IATA (FedEx) and US DOT HazMat Trained

Professional Affiliations

- American Institute of Chemical Engineers (Senior/Life Member)
- American Chemical Society
- American Society of Safety Engineers (Professional Member)
- Refrigeration Engineers and Technicians Association
- Scoutmaster, Troop 24, Boy Scouts of America, Cascade Pacific Council
- Auditing Roundtable
- Board of Environmental Audit Certification – Certified Process Safety Auditor Program Development Committee

Key Projects – PSM/Risk

BP – Audit team member for comprehensive PSM audit of BP Chemicals Decatur, Alabama facility. Responsible for auditing PHA and Process Safety Information components.

HAZOP Leader – Whiting Refinery FCU 500 PRT replacement. Led PHA for replacement of a PRT, including upgrade of all control and support systems.

Shell Oil Products US – Lead auditor for Process Safety Management audit process (leading team of 5 auditors) for SOPUS refining, chemical, and distribution facilities. Assist in audit teams for focused regulatory compliance and multimedia environmental, health and safety corporate auditing.

General Chemical Corporation - Lead auditor for CalARP/RMP/Industrial Safety Ordinance audit for Richmond, California Sulfuric Acid plant. Developed comprehensive rewrite of facility standard operating procedures. Program manager for development of risk-based inspection procedures for sulfuric acid processing facility. Developed complete mechanical integrity program for the facility.

King County, WA - Prime contractor for the completion of a PSM/RMP audit for King County's two major wastewater treatment facilities. Prime contractor for the completion of HAZOPs for the chlorine, digester gas, and propane systems at these locations.

Versacold/Americold – Developed written programs (including Process Hazards Analyses) for Versacold refrigerated warehouses located in Lynden, WA and Modesto, CA. Developed standard operating procedure templates for refrigeration processes. Completed mechanical integrity assessments for both facilities, including detailed walk-downs of entire refrigeration system, corrosion assessments, and operability review. Completed 2009 RMP submissions.

Henningsen Cold Storage - Completed mechanical integrity assessment for Henningsen's Forest Grove, OR; Twin Falls, ID (2); Portland, OR; Stillwater, OK; Richland, WA; and Grand Forks, ND cold storage facilities. Mechanical integrity assessment included a detailed walkdown of the entire refrigeration system, corrosion

assessment and an operability review. Conducted PSM program audits for Forest Grove and Portland (2) facilities.

Schreiber Foods —Developed PSM program for all facilities of this major U.S. cheese processor. Completed written PSM program and implemented same at each facility. Developed written emergency response plan for each facility. Completed process hazards analysis and comprehensive roll-out training for each facility. Completed RMP compliance and submittal documentation for each facility. Completed process safety management audits for all US facilities. Assisted in the completion of PSM reviews for newly acquired facilities. Conducted detailed Management of Change (MOC) reviews for the construction of refrigerated storage space at several manufacturing facilities.

Albertson's (SuperVALU)—Program Manager for development, maintenance, and implementation of a range of safety programs related to safety and process safety management at Albertson's distribution centers throughout the U.S. Developed Albertson's PSM program, completed process hazards analyses for 14 distribution centers, developed customized programs for each facility including emergency response plans. Following completion of the PSM programs, developed and implemented a training program for facility employees.

Developed and implemented 24-hour HazWOPER training for all distribution center emergency responders. Developed and implemented respiratory protection training for facility emergency responders. Completed PSM audits for all distribution centers. Manage complete management of change and pre-startup safety review program for Albertson's refrigerated distribution centers.

Working in conjunction with American Stores Properties, Inc., assisted Albertson's in the integration of the ASPI (ACME, Jewel, and Lucky Stores) facilities into Albertson's programs. Developed RMP compliance and submission documents for all covered facilities. Completed design reviews and analysis for Houston (Katy), Texas; Tulsa, Oklahoma; and Lancaster, Pennsylvania distribution centers.

Provided regular HazWOPER refresher training to all covered employees. Managed the completion of nearly 100 Phase I ESAs in support of Albertson's—Lucky Stores regulatory process. Assisted in UST upgrade process for distribution centers.

Tillamook County Creamery Association – Completed process safety management and risk management plan compliance audits for Boardman and Tillamook locations of this cooperative cheese manufacturer. Assisted with the development of a follow-up mechanism for audit findings.

Seafreeze – Conducted regular PSM audits for this flexible warehouse and fish processing location in the Port of Seattle, WA.

Welch Foods – Conducted environmental, health and safety assessments for Welch’s facilities in Washington. Developed comprehensive process safety management programs for Welch’s grape and apple processing facilities in Washington and Michigan. Lead industry-standard process hazards analyses and revalidations; developed standard operating procedures for the refrigeration systems; and completed several rounds of process safety management compliance audits for all facilities. Developed customized emergency response plans for each facility. Responded to US EPA RMP citation and implemented remedial measure to bring program into compliance.

Salt Lake Organizing Committee for the 2002 Olympic Winter Games—Developed PSM, environmental risk management, and emergency response plans for the Utah Olympic Park and Olympic Oval. Provided employees and emergency responders with emergency response training for hazardous materials releases. Assisted in the development of EMS for emergency response and chemical safety.

Vancouver Organizing Committee for the 2010 Olympic Winter Games - Provided employees and emergency responders with emergency response training for hazardous materials releases from the Whistler Bobsleigh/Luge Track. Assisted in the development of EMS for emergency response and chemical safety.

SUMCO USA—Project Director for PSM and RMP compliance activities pertaining to several hazardous materials processes. Developed preventive maintenance programs for ammonia, hydrogen chloride, trichlorosilane, and hydrogen processes. Completed periodic PSM and RMP audits for the facilities. Prepared RMP plans for the various processes, including identification of worst- and alternate release scenarios, modeling offsite consequences, verifying environmental and public

receptors within the release radii, and preparing all submittal documentation for the site. Trained facility emergency response team members on the facility-specific and chemical-specific emergency response needs to satisfy regulatory requirements.

Texaco Products Singapore – Completed a transportation risk analysis for the transportation of molten sulfur across the road bridge to Jurong Island, Singapore.

Sunrise Cogeneration – Provided expert testimony concerning transportation and stationary source risk associated with the placement of anhydrous ammonia facilities for selective catalytic reduction of nitrogen oxides at a California natural gas cogeneration facility.

Northville Industries - Developed Pipeline Integrity Management Plan (IMP) consistent with the requirements of 49 CFR for an onshore pipeline system providing fuels to Long Island, NY. Completed a comprehensive pipeline risk assessment using the Muhlbauer Risk Model.

Merrill Lynch - Provided a pipeline risk analysis for siting a new corporate headquarters campus for Merrill Lynch. Estimated the risks associated with explosion and hazardous liquids releases from natural gas and hazardous liquids pipelines in Northern New Jersey.

City of Chicago – Project Director for implementation of Process Safety Management (PSM) programs and Risk Management Plans (RMP) for the Jardine and South Chicago Water Treatment Plants, the largest water treatment complex in the world. Completed detailed Process Hazard Assessments (HAZOP) for both facilities. Worked with staff and managing design consultants to develop standard operating procedures and insure accuracy of P&IDs. Completed employee training and development of facility emergency response plans.

SEMBCORP, Singapore - Project Director for PHA for new chemical loading and unloading facility located on Jurong Island. Facilitated PHA with diverse group of engineers from Malaysia, Indonesia, China and Singapore.

Confidential Semiconductor Manufacturer - Completed comprehensive Process Safety Management and Risk Management Program audit for new anhydrous HCl process.

Completed intensive facility programmatic safety audit for semiconductor fabrication facility of over 1,500 employees.

Mahkteshim Chemical (Ramat Hovav, Israel) – Directed a review of the new Israeli Accidental Risk Management requirements, based on the California Accidental Release Prevention (CalARP) requirements. Conducted a week-long review of operations at 10 chemical production units, including chlorine and phosgene production, as well as specialty pesticide plants.

Los Angeles Unified School District – Conducted pipeline hazard assessments for the siting of several schools using the California Preliminary Endangerment Assessment criteria. Developed explosion and blast models for natural gas and oil pipeline alignments.

Wisconsin Electric — Project Director for the development of a written PSM and RMP program for chlorination and sulfur dioxide Wisconsin Electric power stations. Project responsibilities included: development of the written PSM and RMP program for each treatment plant; PHA leader for facilities; development of worst-case and alternate release scenarios for the RMP; and completion of the offsite consequence analyses for the RMP.

NISource, Whiting Clean Energy— Project Director for the development of a written PSM and RMP program for direct injection ammonia at the NISource Whiting Clean Energy project. Project responsibilities included: development of the written PSM and RMP program. PHA leader for facilities; development of worst-case and alternate release scenarios for the RMP; and completion of the offsite consequence analyses for the RMP.

NRG Encina — Project Director for the development of a written CalARP program for ammonium hydroxide at the NRG Encina (Carlsbad, CA) facility. Project responsibilities included: PHA leader; development of worst-case and alternate release scenarios for the RMP; and completion of the offsite consequence analyses for the RMP.

Lee and Sarasota (FL) Counties - Project Director for the development of a written PSM and RMP program for the water and wastewater treatment plants within Sarasota and Lee Counties in Florida. Project responsibilities included: development of the written PSM and RMP program for each

treatment plant; PHA leader for facility PHAs; development of worst-case and alternate release scenarios for the RMP; and completion of the offsite consequence analyses for the RMP. Program also included a review of the hazards associated with 150-pound chlorine cylinders at these facilities.

City of Yakima—Program Director for the development of a written PSM and RMP program for the City of Yakima's water and wastewater treatment plants in Yakima, Washington. Project responsibilities included: development of the written PSM and RMP program; development of the written emergency response plan for each WTP; lead for the Process Hazards Analysis for the chlorination systems at each WTP; development of written standard operating procedures for the chlorination systems; development of worst-case and alternate release scenarios and completion of the offsite consequence analyses for the RMP; and preparation of RMP documentation submitted to EPA. The project also included a detailed safety assessment of 150-pound chlorine cylinders used for chlorination at wellhead locations throughout the Yakima Valley.

Indianapolis Power & Light— Project Director for the development of a written PSM and RMP program for chlorination, sulfur dioxide, and hydrogen processes at IPL (now AES) power stations. Project responsibilities included: development of the written PSM and RMP program for each treatment plant; PHA leader for facilities; development of worst-case and alternate release scenarios for the RMP; and completion of the offsite consequence analyses for the RMP.

Kanto Corporation – Provided PSM auditing and PSM program development services (including PHA assistance) for this manufacturer of ultrapure chemicals for the semiconductor manufacturing industry. Reviewed processes for ammonium hydroxide production and the purification of alcohols and other products. Conducted initial and follow-up PHAs (using HAZOP methodology) and follow-up PSM audits.

Moses Lake Industries – Conducted (2007/2010) PSM/RMP audit for manufacturer of high purity Tetramethylammonium hydroxide (TMAH).